

COUNTY OF LOS ANGELES

DEPARTMENT OF REGIONAL PLANNING

SANTA CATALINA ISLAND SPECIFIC PLAN
(Ordinance 89-0148: adopted November 28, 1989)

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The appendices listed above are referenced in the Santa Catalina Island Specific Plan, Part 2 of Chapter 22.46, Title 22 which was adopted as Ordinance 89-0148.

APPENDIX A

SANTA CATALINA ISLAND: APPROPRIATE LANDSCAPE AND PLANT MATERIALS

APPENDIX A

SANTA CATALINA ISLAND: APPROPRIATE LANDSCAPE AND PLANT MATERIALS

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Recommended Trees

Ceanothus arboreus (Catalina Ceanothus)	Small tree with blue, lilac-like flowers.
Cercocarpus betuloides var. blanchaeae (Mountain Mahogany)	Small tree.
C. traskae (Catalina Mahogany)	Very rare.
Heteromeles arbutifolia var. macrocarpa (Big Berry Toyon)	Beautiful red berries. Small tree.
Lyonothamnus floribundus var. floribundus (Catalina Ironwood)	Most distinctive tree on island; use in place of eucalyptus.
Platanus racemosa (Sycamore)	
Populus fremontii (Fremont Cottonwood)	Wet locations.
P. trichocarpa (Black Cottonwood)	Wet locations.
Prunus lyonii (Catalina Cherry)	One of the largest and best shade trees.
Quercus chrysolepis (Canyon Oak)	
Q. douglasii (Blue Oak)	
Q. dumosa (Scrub Oak)	
Q. engelmannii (Engelmann Oak)	
Q. lobata (Valley Oak)	Exceptional for landscaping in protected locations.
Q. x macdonaldii (MacDonald Oak)	Exceptional for landscaping in protected locations.
Q. tomentella (Island Oak)	Exceptional for landscaping in protected locations.

Rhamnus pirifolia
(Island Red Berry)

Small tree.

Salix laevigata
(Red Willow)

Wet locations.

S. lasiolepis
(Arroyo Willow)

Small tree for wet loca-
tions.

Acceptable Trees

Eucalyptus spp.

Non-invasive types only.

Juglans californica
Calif. Black Walnut

Recommended Shrubs

Adenostema fasciculatum (Chamise)	White flowers, prunable.
Arctostaphylos catalinae (Catalina Manzanita)	
Artemisia californica (Coast Sagebrush)	Nice, low shrub if irrigated.
Atriplex lentiformis ssp. breweri (Quail Brush)	
Baccharis pilularis consanguinea (Coyote Brush)	Nice, pruned shrub.
Bergerocactus emoryi (Velvet Cactus)	For dry locations.
Castilleja foliolosa (Wooly Paint Brush)	Attractive, small shrub.
Ceanothus megacarpus ssp. insularis (Big Pod Ceanothus)	White flowering shrub.
Clematis ligusticifolia (Virgin's Bower)	
Comarostaphylos diversifolia var. planifolia (Summer Holly)	
Coreopsis gigantea (Giant Coreopsis)	Winter color; stays green if kept moist.
Crossosoma californicum (Catalina Crapapple Bush)	Beautiful shrub; needs water to stay green.
Dendromecon rigida ssp. rhamnoides (Bush Poppy)	Attractive, year-round, flowering shrub.
Encelia californica (Bush sunflower)	Drought tolerant. Yellow flowers, stays green if kept irrigated.
Eriodictyon traskiae var. traskiae (Catalina Yerba Santa)	Attractive small shrub.

Eriogonum giganteum ssp. giganteum (St. Catherine's Lace)	Exceptional, drought tolerant shrub.
E. grande (Island Buckwheat)	
Eriophyllum confertiflorum (Golden yarrow)	Small shrub.
Galium nuttallii var. insulare (climbing Bedstraw)	Small shrub.
Galvesia speciosa (Catalina Snapdragon)	
Holodiscus discolor var. franciscanus (Ocean Spray)	
Isomeris arborea (Bladder Pod)	Attractive shrub for very dry locations.
Keckiella cordifolia (Heart-leaf penstemon)	
Lavatera assurgentiflora (Malva Rose)	Attractive.
Lepechinia fragrans (White pitcher sage)	Good on south-facing slopes.
Lonicera subspicata var. johnstonii (Wild Honeysuckle)	
Lotus scoparius ssp. scoparius (Deerweed)	Small shrub.
Lupinus albifrons var. albifrons (Silver Bush Lupine)	Attractive blue flower.
Lycium brevipes var. hassei (Island Boxthorn)	Attractive.
L. californicum (Calif. Box Thorn)	
Malacothamnus fasciculatus ssp. catalinensis (Catalina Bush Mallow)	Nice shrub.

Mimulus puniceus
(Red Bush Monkey Flower)

Opuntia demissa
(Prickly Pear)

O. littoralis var. littoralis
(Coast Prickly Pear)

O. oricola
(Pancake Prickly Pear)

O. phaeacantha var.
discata
(Prickly Pear)

Rhus integrifolia
(Lemonade Berry)

Shrub.

R. integrifolia x R. ovata
(Hybrid Sumac)

Shrub.

R. ovata
(Sugar Bush)

Ribes viburnifolium
(Catalina Currant)

Good groundcover on north
facing slopes.

Rosa californica
(Wild Rose)

Pretty; good in wet loca-
tions.

Rubus ursinus
(Wild Blackberry)

Easy to grow; edible.

Salicornia subterminalis
(Shrubby Pickleweed)

For saline locations.

Salix hindsiana
var. hindsiana
(Sandbar Willow)

Wet locations.

Salvia apiana

Good on south-facing slopes.

S. apiana x S. mellifera

Good on south-facing slopes.

S. mellifera
(Black Sage)

Sambucus mexicana
(Elderberry)

Solanum wallacei
ssp. wallacei
(Catalina Nightshade)

Symphoricarpos mollis
(Snowberry)

Vitis girdiana
(Wild grape)

Xylococcus bicolor
(Mission Manzanita)

Zauschneria californica
ssp. *californica*
ssp. *mexicana*
(California Fuchsia)

Z. cana
(Hummingbird Trumpet)

Vine.

Nice, viney shrub.

Acceptable Shrubs

Corethrogyne filaginifolia
Cudweed Aster

Stays green if kept
moist.

Euphorbia misera
Cliff-spurge

Galium angustifolium
Shrubby Bedstraw

Small shrub.

Haplopappus palmeri
ssp. pachylepis
Palmer Goldenbush

H. squarrosus
ssp. grindelioides
Saw-Tooth Goldenbush

Small shrub.

H. venetus
ssp. furfuraceus
ssp. vernomioides
Coast Goldenbush

Hemizonia clementina
Island Tarweed

Small shrub.

Opuntia prolifera
Coast Cholla

Pluchea sericea
Arrow Weed

Rhus laurina
Laurel Sumac

Senecio douglasii var. douglasii
Bush Senecio

S. lyonii
Island Butterweed

Small shrub.

Suaeda californica
Calif. Sea Blite

Recommended Perennial Herbs

Abronia maritima (Red Sand Verbena)	For sandy locations.
A. umbellata (Rose Sand Verbena)	For sandy locations.
Achillea millefolium (Yarrow)	Pretty.
Adiantum capillus-veneris (Venus-Hair Fern)	For very wet, shaded locations.
A. jordani (Calif. Maiden Hair)	For very wet, shaded locations.
Allium praecox	Attractive spring wildflower.
Anemopsis californica (Yerba Mansa)	
Astragalus trichopodus var. leucopois (Rattleweed)	Toxic; but good for dry loca- tions.
Atriplex californica (Calif. saltbush)	For saline locations.
A. coulteri (Coulter's Saltbush)	
A. leucophylla (Beach Saltbush)	
Bloomeria crocea	Attractive spring wildflower.
Brodiaea jolonensis (Wild Brodiaea)	Attractive spring wildflower.
Calochortus catalinae (Catalina Mariposa)	Attractive.
C. splendens (Lilac Mariposa lily)	
Calystegia macrostegia (Wila Morning Glory)	
Carex triquetra (Sedge)	Wet locations.

<i>C. praegracilis</i> (Sedge)	Wet locations.
<i>Carpobrotus aequilaterus</i> (Sea Fig)	Groundcover.
<i>Castilleja affinis</i> (Indian Paint Brush)	Attractive.
<i>Delphinium parryi</i> (Blue Larkspur)	
<i>Dichelostemma pulchella</i> (Blue Dicks)	Attractive spring wildflower.
<i>Distichlis spicata</i> var. <i>spicata</i> (Salt Grass)	Good in saline locations.
<i>Dodecatheon clevelandii</i> ssp. <i>insulare</i> (Island Shooting Star)	
<i>Dryopteris arguta</i> (Woodfern)	For very wet, shaded locations.
<i>Dudleya hassei</i> (Catalina Live-forever)	Excellent ground cover.
<i>D. virens</i> (Island Live-forever)	Excellent ground cover.
<i>Eleocharis macrostachya</i> (Pale Spike-Rush)	Wet locations.
<i>Elymus condensatus</i> (Giant Wild Rye)	Good in wet locations.
<i>Epilobium adenocaulon</i> var. <i>holosericeum</i> (Willowherb)	
<i>Eriophyllum nevinii</i> (Dusty Miller)	Great ground cover, gray-green with yellow flowers.
<i>Frankenia salina</i> (Alkali Heath)	For saline locations.
<i>Galium catalinense</i> (Catalina Bedstraw)	
<i>Habenaria unalascensis</i> (Rein Orchid)	Small.
<i>Helianthemum greenei</i> (Island Rock Rose)	

H. scoparium var. vulgare (Wild Rock Rose)	
Juncus acutus (Spiny Rush)	Attractive clumping grass-like plant for wet locations.
J. balticus (Wire Rush)	Attractive clumping grass-like plant for wet locations.
J. bufonius (Toad Rush)	Attractive clumping grass-like plant for wet locations.
J. mexicanus (Mexican Rush)	
J. textilis (Indian Rush)	
J. xiphioides (Iris-leaved Rush)	
Lathyrus laetiflorus ssp. alefeldii (Wild Sweetpea)	Good color.
Lithophragma affine ssp. mixtum (Woodland Star)	
Lonicera hispidula (Calif. Honeysuckle)	Ground cover for north- facing locations.
Lotus argophyllus ssp. ornithopus (Silver Lotus)	Attractive; ground cover for south slopes.
L. grandiflorus (Large flowered lotus)	
L. heermannii	
Malacothrix saxatilis var. tenuifolia (Cliff-aster)	
Mimulus guttatus var. guttatus (Creek Monkey Flower)	Good in wet locations.
Mirabilis californica (Wishbone Bush)	
Monanthochloe littoralis (Shore grass)	

<i>Pellaea andromedaefolia</i> (Coffee Fern)	For very wet, shaded locations.
<i>P. mucronata</i> (Cliff-Brake)	For very wet, shaded locations.
<i>Phyllospadix scouleri</i> (Surf-grass)	Found near Catalina Harbor.
<i>P. torreyi</i> (Torrey's Surf-Grass)	Found near Catalina Harbor.
<i>Pityrogramma triangularis</i> var. <i>triangularis</i> (Goldback Fern)	For very wet, shaded locations.
<i>P. triangularis</i> var. <i>viridis</i> (Silverback Fern)	For very wet, shaded locations.
<i>Polypodium californicum</i> (Calif. Polypody)	For very wet, shaded locations.
<i>Potentilla glandulosa</i> var. <i>glandulosa</i> (Sticky Cinquefoil)	
<i>Pteridium aquilinum</i> (Bracken)	For very wet, shaded locations.
<i>Salicornia virginica</i> (Pickleweed)	Saline locations.
<i>Scirpus microcarpus</i> (Small Fruited Bulrush)	Wet locations.
<i>S. robustus</i> (Pacific Coast Bulrush)	Wet locations.
<i>Scrophularia villosa</i> (Figwort)	
<i>Selaginella bigelovii</i> (Spike-moss)	For very wet, shaded locations.
<i>Sisyrinchium bellum</i> (Blue-Eyed Grass)	Spring wildflowers.
<i>Stipa cernua</i> (Needlegrass)	Native, bunch grasses.
<i>S. lepida</i> (Feather grass)	Native, bunch grasses.

S. pulchra
(Nodding Needlegrass)

Native, bunch grasses.

Typha domingensis
(Slender cat-tail)

Good in wet marshy areas.

T. latifolia
(Cat-Tail)

Good in wet marshy areas.

Viola pedunculata
(Johnny Jump-Up)

In shady locations as an ornamental.

Zostera marina
(Eel grass)

Found near Catalina Harbor.

Acceptable Perennial Herbs

Agrostis diegoensis
Bent grass

Ambrosia chamissonis
Silver Beach Bur

A. psilostachya
Western Ragweed

Artemisia douglasiana
Mugwort

Asclepias fascicularis
Narrow Leaf Milkweed

Atriplex watsonii
Watson's Saltbush

Azolla filiculoides
Duckweed Fern

Baccharis douglasii
Douglas Baccharis

B. emoryi
Emory Baccharis

B. glutinosa
Mule Fat

Bothriochloa barbinodis
Beard grass

Brickellia californica
Calif. Brickell bush

Bromus carinatus
Calif. Brome

B. pseudolaevipes
Woodland Brome

Cardamine californica
Milk Maids

Good in shade.

Cheilanthes californica
Calif. Lace Fern

For wet shaded locations.

Chenopodium californicum
Calif. goosefoot

Cressa truxillensis
var. *vallicola*
Alkali Weed

Dichondra occidentalis
Wild Dichondra

Elymus glaucus
Western Rye Grass

Equisetum laevigatum
Scouring Rush

For wet, shaded locations.

E. telmateia
Giant Horsetail

For wet, shaded locations.

Erigeron foliosus
Fleabane Aster

Gnaphalium bicolor
Two-Tone Everlasting

G. californicum
Green Everlasting

G. microcephalum
Felt-Leaf

Grindelia robusta
Gum Plant

Helenium puberulum
Sneezeweed

Hordeum californicum
Meadow Barley

Jaumea carnosa
Jaumea

Jepsonia malvaefolia
Island Jepsonia

Marah macrocarpus
Wild Cucumber

Melica imperfecta
Chaparral Melic

For wet, shaded locations.

Notholaena californica

Oxalis albicans californica
Wild Sour-grass

Paspalum distichum
 Knotgrass

Perezia microcephala
 Perezia

Phalaris scabrella
 Malpais Blue Grass

Polygonum amphibium
 var. *emersum*
 Swamp Knotweed

Polypogon interruptus
 Beard grass

Potamogeton foliosus
 Leafy Pondweed

P. pectinatus
 Pondweed

Rumex salicifolius
 Willow Park

Ruppia maritima
 Ditch-grass

Sanicula arguta
 Snake Root

S. crassicaulis
 Tall Sanicula

Sarcostemma cynanchoides
 Climbing Milkweed

Satureja douglasii
 Yerba Buena

Sida leprosa
 Alkali-Mallow

Sitanien jubatum
 Squirrel Tail

Solidago californica
 Calif. Goldenrod

Spergularia macrotheca v. *macrotheca*
 Sand spurrey

S. villosa
 Villous Sand Spurrey

Torilis nodosa
Hedge-Parsley

Urtica holosericea
Stinging Nettle

Verbena bracteata
Vervain

V. robusta
Robust Vervain

Recommended Annual Herbs

Antirrhinum nuttallianum (Wild Snapdragon)	Attractive.
Aphanisma blitoides (Aphanisma)	For saline locations.
Atriplex argentea (Silver saltbush)	For saline locations.
A. pacifica (Pacific saltbush)	
Camissonia californica (Calif. Evening Primrose)	
C. micrantha (Small-flowered Evening Primrose)	
Clarkia epilobioides (Willow-Herb Clarkia)	
Clarkia purpurea quadrivulnera (Purple Clarkia)	
Claytonia perfoliata (Miner's Lettuce)	Wet locations.
Dissanthelium californicum (Calif. dissantheliem)	Good for saline locations.
Draba cuneifolia var. integrifolia (Rock Cress)	For use in very wet locations.
Eschscholzia californica var. peninsularis (Calif. Poppy)	Attractive and drought tolerant.
E. ramosa (Island Poppy)	Attractive and drought tolerant.
Festuca pacifica (Pacific fescue)	
F. reflexa (Few flowered fescue)	
Lasthenia chrysostoma (Goldfield)	Spring color.

Layia platyglossa campestris
(Tidy Tips)

Spring color.

Linanthus bicolor
(Bicolor linanthus)

May be extinct.

L. dianthiflorus
(Ground Pinks)

Lotus hamatus
(Prostrate lotus)

L. humistratus

L. purshianus
(Spanish clover)

L. salsuginosus
(Coastal lotus)

Lupinus agardhianus
(Annual lupine)

Attractive blue flower.

L. bicolor ssp. pipersmithii
(Dove lupine)

Attractive blue flower.

L. concinnus
(Bajada lupine)

Attractive blue flower.

L. hirsutissimus
(Stinging lupine)

Attractive blue flower.

L. succulentus
(Arroyo lupine)

Attractive blue flower.

L. truncatus
(Collar lupine)

Mentzelia micrantha
(Blazing star)

Mimulus cardinalis
(Scarlet Monkey Flower)

Good in wet locations.

M. floribundus
(Shiny Monkey Flower)

M. traskiae
(Catalina Monkey Flower)

Nemophilla menziesii
(Baby Blue Eyes)

Orthocarpus purpurascens
(Owl's Clover)

Phacelia cicutaria
var. *hispida*
(Caterpillar phacelia)

P. distans
(Fern-leaf phacelia)

P. grandiflora
(Large flowered phacelia)

P. lyonii
(Lyon's Phacelia)

Platystemon californicus
(Cream cups)

Pretty, but may be
extinct.

Ranunculus hebecarpus
(Buttercup)

Salvia columbariae
(Chia)

Good on south-facing
slopes.

Stylomecon heterophylla
(Wind poppy)

Acceptable Annual Herbs

Alchemilla occidentalis
Lady's Mantle

Allophyllum glutinosum
Stinky Gilia

Ambrosia acanthicarpa
Burweed

Ammannia coccinea
Ammannia

Amsinckia intermedia
Fiddleneck

A. menziesii
Little flowered Fiddleneck

Antirrhinum kelloggii
Twining Snapdragon

Apiastrum angustifolium
Wild celery

Arenaria douglasii
Sandwort

Aristida adscensionis
Three-Awned grass

Astragalus didymocarpus
Dwarf Locoweed

Toxic, but good for dry
locations.

A. gambeliamus
Dwarf Locoweed

Athysanus pusillus
Athysanus

Atriplex serenanai v. davidsonii
Annual Saltbush

Bromus arizonicus
Arizona Brome

B. trinii
Chilean Brome

Calandrinia ciliata
Red Maids

C. maritima
Sea Kisses

Callitriche marginata
Water-Starwort

Caucalis microcorpa
Hedge-Parsley

Centaurium venustum
Canchalagua

Chaetopappa lyonii
Chaetopappa

Chorizanthe coriacea
Spiny Herb

C. staticoides
Turkish Rugging

Cirsium californicum
Calif. Thistle

C. occidentale
Red Thistle

Conja coulteri

Crassula aquatica
Water Pigmy Weed

C. erecta
Pigmy Weed

Cryptantha clevelandii
White Forget-Me-Not

C. intermedia
Popcorn flower

C. maritima
Guadalupe Popcorn Flower

C. micromeres
Mini-flowered Popcorn Flower

C. microstachys
Mini-flowered Popcorn Flower

Daucus pusillus
Rattlesnake Weed

Descurainia pinnata
ssp. *menziesii*
Tansy Mustard

Elatine californica
Waterwort

Emmenanthe penduliflora
Whispering Bells

Eremalche exilis
White Mallow

Eriastrum filifolium
Thread Stem Eriastrum

Eucrypta chrysanthemifolia
Eucrypta

Euphorbia crenulata
Chinese Caps

E. serpyllifolia
Thyme-leaved spurge

E. spathulata

Festuca megalura
Foxtail Fescue

F. myuros
Rattail Fescue

F. octoflora
Six-Week Fescue

Filago arizonica
Arizona filago

Galium aparine
Cleavers

Geranium carolinianum
Cranes bill

Gilia angelensis
Angeles Gilia

G. capitata
Globe Gilia

G. nevinii
Island Gilia

Gnaphalium chilense
Cotton-Batting Plant

G. palustre
Lowland Cudweed

G. purpureum
Purple Cudweed

Harpagonella palmeri
Harpagonella

Heliotropium curassavicum
Wild Heliotrope

Good for sandy sites.

Hemizonica fasciculata
Tarweed

Hesperocnide tenella
Black Hair Nettle

Hesperolinon micranthum
Dwarf Flax

Heterotheca grandiflora
Telegraph Weed

Hordeum pusillum
Barley grass

Lepidium lasiocarpum
Hairy Peppergrass

L. latipes
Dwarf Peppergrass

L. nitidum
Shiny Peppergrass

Linaria bipartita
Toadflax

L. canadensis
Blue Toadflax

Lotus strigosus
Strigose Lotus

L. Subpinnatus
Chile Lotus

Madia exigua
Small Tarweed

M. gracilis
Gum Weed

M. sativa
Chile Tarweed

Malva parviflora
Cheeseweed

Microseris douglasii
ssp. platycarpa
Silver Puffs

M. heterocarpa
Brown Microseris

M. linearifolia
White Microseris

Muhlenbergia microsperma
Annual Muhly

Navarretia atractyloides
Holly-leaved Navarretia

N. hamata var. hamata
var. foliaceae
Hooked Navarretia

Oligomeris linifolia
Olgomeris

Parietaria floridana
Pellitory

Pectocarya linearis
Comb-Bur

P. pencillata
Comb-Bur

Perityle emoryi
Rock Daisy

Phalaris lemmonii
Lemmon's Canary Grass

Pholistoma auritum
Fiesta Flower

P. racemosum
White Fiesta Flower

Plagiobothrys californicus
 Calif. Popcorn Flower

P. canescens var. *catalinensis*
 Catalina Popcorn Flower

Plantago erecta
 Calif. Plantain

P. insularis
 Island Plantain

Pluchea purpurascens
 Marsh Fleabane

Polycarpon depressum
 Calif. Polycarp

Psilocarphus tenellus
 Woolly-Heads

Pterostegia drymarioides
 Thread Stem

Rafinesquia californica
 Calif. Chicory

Sagina occidentalis
 Pearlwort

Sibara filifolia
 Island Rock Cress

Silene antirrhina
 Sleepy Catchfly

S. multinervia
 Nervy Catchfly

Spergularia marina
 Sea Spurrey

Stellaria nitens
 Shiny Chickweed

Stephanomeria exigua
 Small Hepharpmeria

S. virgata
 Wand Chicory

Stylocline gnaphalioides
 Everlasting Nest-Straw

Thelypodium lasiophyllum
Calif. mustard

Thysanocarpus curvipes
Lace-pod

T. laciniatus
Fringe-pod

Trichostema lanceolatum
Vinegar Weed

Trifolium albopurpureum
Indian Clover

T. amplexans
Pale Sack Clover

T. gracilentum
Pin-Point Clover

T. macraei
Double-Headed Clover

T. microcephalum
Small-Headed Clover

T. microdon
Valparaiso Clover

T. palmeri
Palmer's Clover

T. tridentatum
Tomcat Clover

Triodanis biflora
Little Venus Looking glass

Tropidocarpum gracile
Dobie pod

Vicia exigua
Slender Vetch

Xanthium strumarium
Cockle Bar

APPENDIX B

LOS ANGELES COUNTY AIRPORT LAND USE COMMISSION

Review Guidelines

For

Helicopter Landing Facilities

I. INTRODUCTION

The following guidelines set forth the policies, procedures and criteria employed by the Los Angeles County Airport Land Use Commission in its review of proposed new helicopter landing facilities. These guidelines will be included as part of the normal Conditional Use Permit process for helistops proposed within unincorporated areas, and will assist the Commission in preparing advisory comments on proposals to establish such facilities within incorporated local jurisdictions.

II. ALUC HELICOPTER POLICY

A. Statement of Intent

The Los Angeles County Airport Land Use Commission hereby finds and declares as follows:

- Within Los Angeles County there is a trend toward increased use of helicopters in the business, medical, media, public safety, and commercial transportation sectors.
- While helicopter transport is becoming an increasingly important component of the regional transportation system, unguided proliferation of helicopter landing facilities may adversely affect local land use and environmental quality.
- At present there are no uniform criteria employed in the review of potential helicopter landing sites which adequately address potential land use impacts within the affected community or region as a whole.
- Particular concern has been expressed by many regarding the potential noise and safety impacts associated with helistop approach and departure paths, and the low level overflight of residential areas.
- The Airport Land Use Commission is mandated by the State Public Utilities Code to review and act on proposed new helicopter landing facilities with reference to local land use considerations and the maintenance of a viable regionwide aviation system.

Therefore, it is the intent of the Los Angeles County Airport Land Use Commission to:

- 1) Actively review proposals for the development of new helicopter landing facilities within Los Angeles County relative to potential noise and safety impacts; and,

- 2) Provide assistance to involved local jurisdictions, state and regional agencies, and private interests in the identification and mitigation of potential adverse impacts associated with such facilities.

B. Statement of Policy

It is the policy of the Los Angeles County Airport Land Use Commission, in cooperation with involved local, state and federal agencies, and industry representatives, to:

- 1) Provide for the establishment of helicopter landing facilities to serve the special needs of the emergency medical and public service sectors.
- 2) Provide for the establishment of helicopter landing facilities for business and personal use only where it can be demonstrated that:
 - . Substantial public benefit will be derived from the intended use of the proposed facility; and that,*
 - . The intended use of the proposed facility will not increase community exposure to adverse health (particularly noise), safety or nuisance impacts.**
- 3) Promote efforts to establish defined regional corridors for private and commercial helicopter traffic in order to maintain the safe and efficient use of airspace and reduce overflight of noise sensitive land uses.

III. REVIEW CRITERIA

The following factors and criteria shall be conditions of development imposed by the ALUC in its review of proposed new helicopter landing facilities:

*The finding of "substantial public benefit" is a subjective determination which can only be reached after careful consideration of each specific proposal. For example, proposed facilities which significantly contribute to the creation or retention of employment opportunities, demonstrably reduce the costs of goods and services consumed by the public at large, or are integral and necessary to the continued viability of an otherwise desirable enterprise, may be found to have substantial public benefit. Facilities intended for the personal convenience of a limited and exclusive set of users should be carefully considered in light of potential adverse impacts on the surrounding community.

**See review criteria for proposed helicopter landing facilities.

1. Intended Use and Purpose: Proposed new helicopter landing facilities to be used in conjunction with emergency medical, police, fire or other public health and safety services will be accorded first priority consideration.
2. Location, Elevation and Design: The design of the proposed facility shall comply with standards established by the FAA and set forth in Advisory Circular No. 150/539-1B (Heliport Design Guide). In urbanized settings, rooftop landing facilities are generally preferable to ground level pads due to the increased separation between ground activities and conflicting aircraft operations.
3. Approach and Departure Routes: Overflight of noise sensitive land uses shall be avoided. The availability of alternative emergency landing sites along designated approach and departure paths will be assessed.
4. Noise Impact Assessment: The following factors will be considered in the assessment of potential noise impacts.
 - Size and type of aircraft to use the proposed facility.
 - Acoustical propagation characteristics associated with operations at the proposed facility.
 - Anticipated number and hours of operations.
 - Location and height of surrounding buildings, walls and other noise attenuating features.
 - Prevailing local wind patterns.
 - Proximity of residential areas, schools and other noise sensitive use.
5. Noise Standard: The noise impact areas is defined as that area exposed to a SENEL of 70 dB or greater as a result of helicopter operations at the proposed facility. Exposure of residential and other sensitive uses to such noise impacts shall be avoided, particularly during noise sensitive hours.
6. Pedestrian and Automotive Thoroughfares: Low level overflight of pedestrian and automotive thoroughfares shall be avoided.
7. Special Land Use Considerations: The proximity of land uses involving special compatibility and/or safety issues, such as places of public assembly, storage facilities for volatile or dangerous materials, and manufacturing or communication facilities particularly sensitive to noise and vibration will be assessed. Low level overflight of such uses shall be avoided.

8. Proximity to Other Helicopter Landing Facilities: The proximity of the proposed landing facility to other active helicopter facilities will be assessed. Non-emergency medical/public safety related private landing facilities will be discouraged within 2 miles of an established public use helistop or heliport.

IV. PERMIT CONDITIONS

Permits issued by local jurisdictions for proposed new helicopter landing facilities shall incorporate the following provisions:

- . A standard defining acceptable noise emission and impacts associated with operation of the proposed helistop.
- . Helistop design, location and use conditions as necessary to assure noise and safety compatibility with surrounding community (i.e., type of aircraft permitted, number and hours of operations, designated approach and departure paths, quiet landing and take off procedures, restricted over-flight areas, etc.)
- . An effective permit duration not to exceed ten years, with annual reviews relative to conditions of approval. Such permits may be renewed upon expiration following formal public review and hearing.
- . Helistop owners/operators, in conjunction with users, to develop and institute a 'fly neighborly' program.
- . Helistop owners/operators to maintain an up-to-date log of aircraft operations at the facility.
- . A specific revocation clause based upon violation of the conditions of approval.
- . Required maintenance of adequate liability insurance.
- . Other special conditions as may be required by local health and safety agencies.

APPENDIX C

A Study of the Marine Environment of Catalina Harbor,
Santa Catalina Island, California, with Reference to
a Proposed Residential-Recreational Development

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A STUDY OF THE MARINE ENVIRONMENT OF CATALINA HARBOR
SANTA CATALINA ISLAND, CALIFORNIA
with reference to
A PROPOSED RESIDENTIAL-RECREATIONAL DEVELOPMENT
WORK PROGRAM

INTRODUCTION

The purpose of this program is to outline the type of ecological study necessary to evaluate adequately the impact of the proposed Two Harbors development* on the Catalina Harbor ecosystem.

It is intended that the results of the study will provide information necessary 1) to condition the extent of development around Catalina Harbor, 2) to guide the determination of mitigation measures, and 3) to establish the type and degree of impact monitoring.

The criteria for evaluating the impact of proposed developments in, or near, a wetland/estuary such as Catalina Harbor have been detailed in the "Statewide Interpretive Guideline for Wetlands and Other Wet Environmentally Sensitive Habitat Areas", adopted by the California Coastal Commission on February 4, 1981.

In the Catalina Harbor Plan, the only proposed "development" actually in the wetland/estuary would be 1) maintenance dredging to recover

Note: "Development" and other terms which have particular and specific meaning under the Coastal Act have been stated and are defined in the Appendix attached to this report.

lost mooring areas, 2) addition of more moorings, and 3) effect of the proposed development attracting more people and boats to the area.

Section 30233(c) of the Coastal Act requires that "diking, filling or dredging in existing wetland or estuary shall maintain or enhance the functional capacity* of the wetland or estuary".

The rest of the actual development (construction, etc.) would be adjacent to* (landside of) the wet areas and would be guided by Section 30240(b) of the Coastal Act:

"Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas (emphasis added)."

In both cases, the key for evaluating development impact on an environmentally sensitive area* is the extent to which the proposed development maintains or enhances the functional capacity of that area. A development which does not significantly degrade an environmentally sensitive habitat will maintain its functional capacity. The type of proposed development, the particulars of its design, location in relation to the habitat area, and other relevant factors all affect the determination of functional capacity.

In order to establish that the functional capacity is at least being maintained, the applicant for development must demonstrate all of the following:

- 1) That the project does not alter presently occurring plant and animal populations in the ecosystem in a manner that would impair the long-term stability of

the ecosystem, i.e., natural species diversity, and, the abundance and composition are essentially unchanged as a result of the project.

- 2) That the project does not harm or destroy a species or habitat that is rare or endangered.
- 3) That the project does not harm a species or habitat that is essential to the natural biological functioning of the wetland or estuary.
- 4) That the project does not significantly reduce consumptive (e.g., fishing, aquaculture and hunting) or nonconsumptive (i.e., water quality and research opportunity) values of the wetland or estuarine ecosystem.

To assess adequately the impact of the proposed development in the Catalina Harbor mudflat/estuary, using the above guidelines and criteria, we propose a three-part program of an ecological survey, an ecosystem functional study, and an impact prediction study. The information gathered would also be used to guide mitigation measures and monitoring program. According to the 1981 Guidelines, this three-part study program would also address the following: "--- an applicant for a permit to develop within or near an environmentally sensitive habitat area may be required to submit supplemental information ---." "It is recommended that this information be developed before the application comes before the Commission, but the Commission may require additional information as a part of its permit process." Recognizing the sensitivity and visibility of the proposed Catalina Harbor development, we feel that it is prudent at this time to attempt to anticipate the type and magnitude of the "supplemental information" and to build the study program around both the primary and supplemental criteria.

The Guidelines also state "A report should be prepared which demonstrates that all of the criteria for development in environment-

ally sensitive habitat areas have been met. The report should investigate physical and biological features existing in the habitat area and evaluate the impact of the development on the existing ecosystem. The report should be based on an on-site investigation, in addition to a review of the existing information on the area, and should be sufficiently detailed to enable the Commission to determine potential immediate and long range impacts of the proposed projects." The guidelines specifically require, among other items an examination of the following:

- 1) previous and existing ecological conditions,
- 2) present and potential adverse physical and biological impacts on the system and
- 3) mitigation measures, including restoration measures and proposed buffer areas.

The following objectives of the three part study plan parallel and compliment the above items, and address them in detail:

STUDY PLAN OBJECTIVES

SUB-PROJECT 1 - Ecological Study

To survey the marine resources of Catalina Harbor including:

- 1) composition of the biological assemblages (species, abundance, biomass, life-history, dispersion, etc.)
- 2) quantity and distribution of abiotic materials (substrates, nutrients, etc.)
- 3) range or gradient of physical environmental factors (temperature, light, etc.)

SUB-PROJECT 2 - Ecosystem Functional Study

To determine functional relationships among key components of the Catalina Harbor marine ecosystem, including:

- 1) pathways of energy flow between major compartments and through the system

- 2) rate of cycling for certain critical elements (e.g., nitrogen)
- 3) regulation of system by physical environment and by organisms

SUB-PROJECT 3 - Impact Prediction Study

To predict and define the types, degrees and possible effect of developmental impacts on the Catalina Harbor marine ecosystem, including:

- 1) construction/facilities impacts (erosion, pollution, dredging, etc.)
- 2) people impacts (habitat disturbance, collection/harvesting, pollution, etc.)

STUDY PLAN DESCRIPTION

To a certain extent, each sub-project is dependent on the findings of others; however, each also has aspects that can be explored independently of the others. Therefore, due to time constraints, the three should be carried out concurrently. Since the sub-projects are interrelated and overlapping close coordination and cooperation among their leaders and participants would be necessary.

Three time phases for carrying out the overall study plan can be identified as follows:

- I. Reconnaissance (3 months duration)
- II. Data Gathering (12 months duration)
- III. Data Analysis (6-9 months duration)

The type of work to be carried out during each of the three time phases is described in outline form below.

RECONNAISSANCE (3 months duration)

The marine environment of Catalina Harbor should be evaluated initially by short-term reconnaissance surveys. These preliminary

surveys are needed to plan the details of the year-long Data Gathering phase. Subtidal, intertidal and adjacent terrestrial habitats should be described and mapped. Preliminary physical and chemical data should be gathered to assess the magnitude, range and distribution of important environmental factors throughout Catalina Harbor. Plants, invertebrates, fishes, birds, mammals, and the herpetofauna should be inventoried qualitatively. Their distribution and relative abundance throughout the harbor should be determined. Obvious behavioral and ecological phenomena (e.g., activity patterns, food habits, recruitment) should be recorded. Present land and water uses should be determined and pollution threats (oil from inside and outside, boat and landslide discharges, etc.) noted. All existing data and literature pertaining to Catalina Harbor should be accumulated and organized.

More specifically, the reconnaissance surveys should produce preliminary information for each of the following categories:

A. Physical and Chemical Characteristics

- 1) location and size of the study area: boundaries of Catalina Harbor, including volume of water, length of shoreline, etc.
- 2) geophysical characteristics: topography, substrate geomorphology, sediment composition and quality (inorganics, organics, pH, O₂, H₂S, pollutants, etc.)
- 3) meteorology: air temperatures, rainfall, wind effects, air quality (light levels, "pollutants", etc.)
- 4) physical oceanography: water temperatures, salinity, water movement (tides, currents, swells) water quality (turbidity, nutrients, dissolved O₂, "pollutants", etc.)

B. Biological Characteristics

- 1) species composition, distribution and abundance: rare, unique or sensitive species.
- 2) behavioral phenomena: locomotion, activity patterns, predator/prey interactions, reproductive behavior, etc.

- 3) ecological phenomena: productivity, trophic structure, seasonality, species assemblages, habitats, species diversity and population dynamics (recruitment, growth, age-size relationships, fecundity, mortality).

C. Land/Water Uses

- 1) marine resource harvesting: sport, commercial, aquaculture
- 2) municipal and industrial activities: refuse disposal, road grading, etc.
- 3) transportation corridors: roads, sea lanes, etc.
- 4) recreational uses: boating, scuba diving, tidepooling, etc.
- 5) scientific research and education

DATA GATHERING (12 months duration)

Information from the reconnaissance surveys should be used to organize the Data Gathering studies. These studies would include all three sub-projects of the proposed work program (ecological surveys, ecosystem function, and impact prediction).

Sub-Project 1 - Ecological Survey

Based on the information gathered in the reconnaissance phase, quantitative survey methods (e.g., transects and quadrats) should be dictated by the nature of the habitat and species employed in representative intertidal and subtidal habitats. Specific survey methods should be dictated by the nature of the habitat and species present (anticipated methods include core or grab samples for mud dwellers, beach seines for nearshore fishes, plankton tows for water day/night and seasonal monitoring of the above conditions (over a single annual cycle) should be carried out to determine temporal variability. All efforts in this ecological survey should be closely coordinated with the ecosystem function and impact prediction sub-projects.

Sub-Project 2 - Ecosystem Function Study

Concurrent with the marine ecological survey, and relying initially on its results, the ecosystem function study would identify the major functional compartments of the Catalina Harbor ecosystem and measure directly the magnitude of their metabolic rates (see Appendix 2). Conventionally these compartments include primary producers (plants and algae), herbivores (plant eaters), carnivores (animal eaters), and detritivores (detritus eaters). For the Catalina Harbor study, this represents the simplest initial grouping. During the preliminary field work, the adequacy of these groups must be evaluated, perhaps with the subdivision of each compartment into two or more parts with significantly different responses to controlling physical factors. For example, we may anticipate already that it would be desirable to divide the primary producers into sub-groups such as phytoplankton, benthic algae, and sea grasses.

The methods used to measure compartment metabolic rates would depend on the physical characteristics of the system and upon the dominant species present. For primary producers, some combination of light and dark chamber incubation techniques with measurements of oxygen and nutrient change and/or carbon 14 uptake would be likely choices. Such methods have been used successfully in studies of a wide variety of marine ecosystems.

An implicit goal of compartment functional rate measurements is to relate the variability observed to variations in certain physical factors (e.g., temperature, light and water motion). In some cases, correlations can suggest functional relationships, describing, for example, primary productivity as a function of light intensity. Such relationships can provide a key for anticipating the responses

of those compartments to possible perturbations (disturbances) resulting from the proposed development. Two additional approaches may also be useful. First, functional responses may be extrapolated for patterns observed in other ecosystems judged comparable from the descriptive inventory and rate measurements. Secondly, manipulative field experiments may be coupled with the survey measurements to provide specific information on the response of the community to perturbations. Thus, photosynthetic rates observed when screening is suspended over sectors could be compared to control samples to help determine the functional response to reduced light levels.

For this study, the later direct experiments may prove to be an important tool for the prediction of effects of possible perturbations resulting from the proposed development. Once the most likely types of perturbation have been identified, controlled small-scale experiments may be undertaken to anticipate and evaluate their impact.

. Sub-Project 3 - Impact Prediction Study

Even during the reconnaissance phase, the potential impacts of all phases of the proposed development, both stated and implied, would be considered. As stated earlier, the two major impact categories deal with 1) the short-and long-term effects of the construction itself and 2) the effect of the increased numbers of people, and their activities, which that construction and development will attract and support.

Particular consideration should be given to the following:

- 1) Pre-construction effects on the marine environment
 - a) site preparation (earth moving)

- b) construction roads, barge ramps, etc.
- c) size, type and support needs of equipment to be used.
- d) source and compatibility of fill dirt.
- e) impact of proposed dredging.
- f) consideration of mitigation for both construction and post-construction impacts.
- g) input into planning compatible recreational and visitor-serving access areas, based on survey data and systems analysis.

2) Construction period effects on the marine environment

- a) continued surveillance to the potential impact of newly constructed roads, ramps, paths, etc.
- b) potential contamination due to accidental disposal of construction wastes (washing cement trucks, drainage from batch plants, etc.)
- c) composition of ground contact materials (road surfacing, landscaping, culverts, etc.) which might reach or be carried to Catalina Harbor in runoff.
- d) any mitigation for all of the above.

3) Post-construction effects on the marine environment

- a) establishment of the most functional and acceptable monitoring program, subject to periodic updates and revisions.
- b) periodic evaluation of the success of the mitigation requirements, with possible alteration and updates.
- c) careful documentation and continual assessment of the activities of the people attracted to, and supported by, the development.

DATA ANALYSIS (6-9 months duration; may run concurrently with Data Gathering in some cases.)

During this phase, the data gathered in the other sub-projects would be evaluated with respect to the criteria set forth in the "Statewide Interpretive Guideline for Wetlands and Other Wet Environmentally Sensitive Habitat Areas". Key guideline concepts to be considered in all evaluations would include those relating to functional capacity, long-term stability, natural species

diversity, essential or rare species or habitats, and consumptive or non-consumptive values of the ecosystem.

Combined results from the ecological survey and the ecosystem functional sub-projects would identify those biotic and abiotic components of Catalina Harbor which are relevant to the guideline criteria and the proposed development. Based on results of the impact prediction sub-project, the various potential impacts could be ranked and specific impacts identified as most serious with respect to sensitive parts of the ecosystem. Careful analysis of possible perturbations, coupled with their resulting impacts, would permit informed judgements to be made concerning the extent of development compatible with maintaining the functional capacity of the Catalina Harbor ecosystem. In addition, appropriate mitigation measures could be ascertained, and the most meaningful approach to short- and long-term monitoring could be determined.

To further strengthen the basis for final evaluations, the results of the ecosystem functional study could be formulated into a quantitative model. If the various functional responses to critical environmental factors are determined, these responses can be expressed mathematically. Utilizing impact prediction results from Sub-Project 3, certain development scenarios can be simulated as forced changes in critical factors, and the ecological consequences calculated. For example, if a major impact is anticipated to be increased freshwater runoff or elevated turbidity during the construction phase, the functional responses of organisms to these perturbations could be included on the model and the extent of resulting effects estimated.

Simulation models are not foolproof, but they can provide a powerful quantitative tool for predicting the consequences of the ecological interactions expressed in the equations and provide a firm basis for the final interpretations and judgements made by experts in the field.

STUDY APPENDIX 1 - GLOSSARY OF COASTAL ACT DEFINITIONS

"adjacent to" -- means situated near or next to, adjoining, abutting or juxtaposed to an environmentally sensitive habitat area. This will usually mean that any development proposed in an undeveloped area within a distance up to 500 feet from an environmentally sensitive habitat area will be considered adjacent to that habitat area.

"development" -- includes placement of fill; construction or alteration of any structure or facility; discharge of any waste material; dredging or extraction of any materials; change in the density or intensity of use of land; removal or harvest of major vegetation except for agricultural purposes; and, other alterations to the land and water in the coastal area.

"environmentally sensitive area" -- means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.

"functional capacity" -- means the ability of the wetland or estuary to be self-sustaining and to maintain natural species diversity. The intention here is to convey the importance of not only how many species there are but also the size of their populations (abundance) and the relative importance of the different species to the whole system (composition). It cannot be overemphasized that the presence of a species by itself is an inadequate indicator of the condition of the natural system.

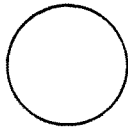
In a "healthy" wetland ecosystem, the absolute number of individuals of a species and the relative number compared to other species will depend on the size of the organism and its place in the food the food web. Major changes in absolute or relative numbers of some species will have far-reaching consequences for the whole ecosystem because of their interactions with other species.

STUDY APPENDIX 2 - ENERGY NETWORK DIAGRAM AND SYMBOL EXPLANATION

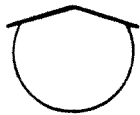
This energy network diagram presents the major biotic and abiotic compartments, energy flows, and forces functioning in Catalina Harbor, including the perceived sphere of influence of the proposed development project. It is intended to be a general diagram and does not delineate the complete array of complex interactions occurring in Catalina Harbor. An explanation of the energy circuit language is given below:



Arrow: indicates a flow of energy in a particular direction.



Circular symbol: represents a source of energy.



Passive storage symbol: no new potential energy is generated.



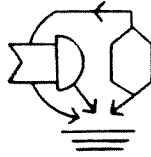
Heat sink symbol: required according to the Second Law of Thermodynamics.



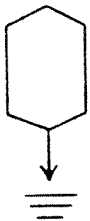
Work gate symbol: a module at which a flow of energy makes possible another flow of energy; + and/or - indicate an increased or decreased effect



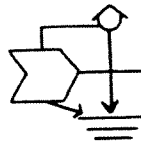
Green plant symbol: represents a combination of



where energy captured by a cycling receptor unit is passed to a self maintaining unit that also keeps the cycling receptor machinery working.

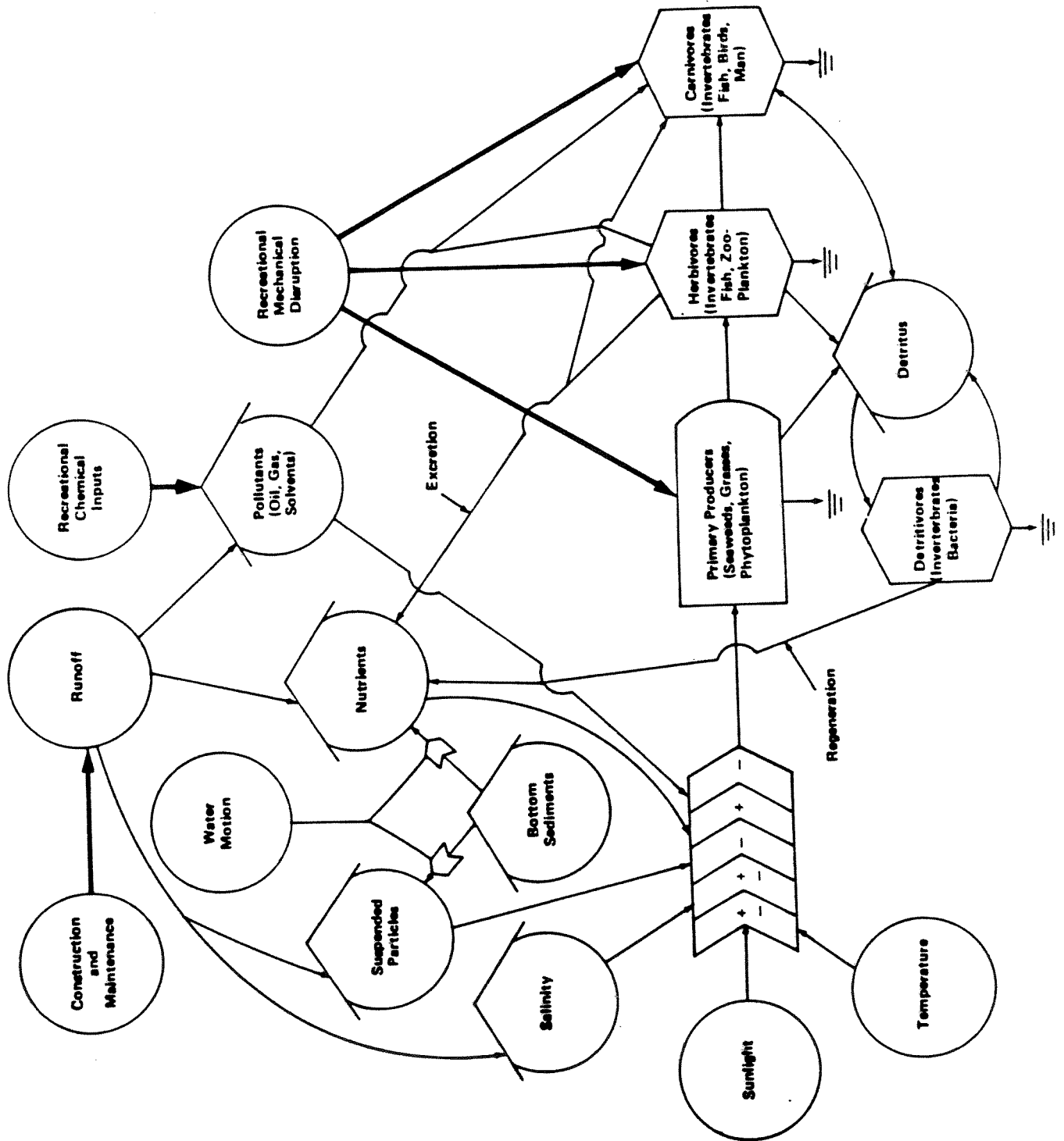


Hexagonal symbol: represents a combination



of where stored energy is fed back to do work on the successful processing and work of that unit.

ENERGY NETWORK DIAGRAM



STUDY APPENDIX 3 - List of Authors

The authors of this document are on the staff of, or affiliated with, the University of Southern California:

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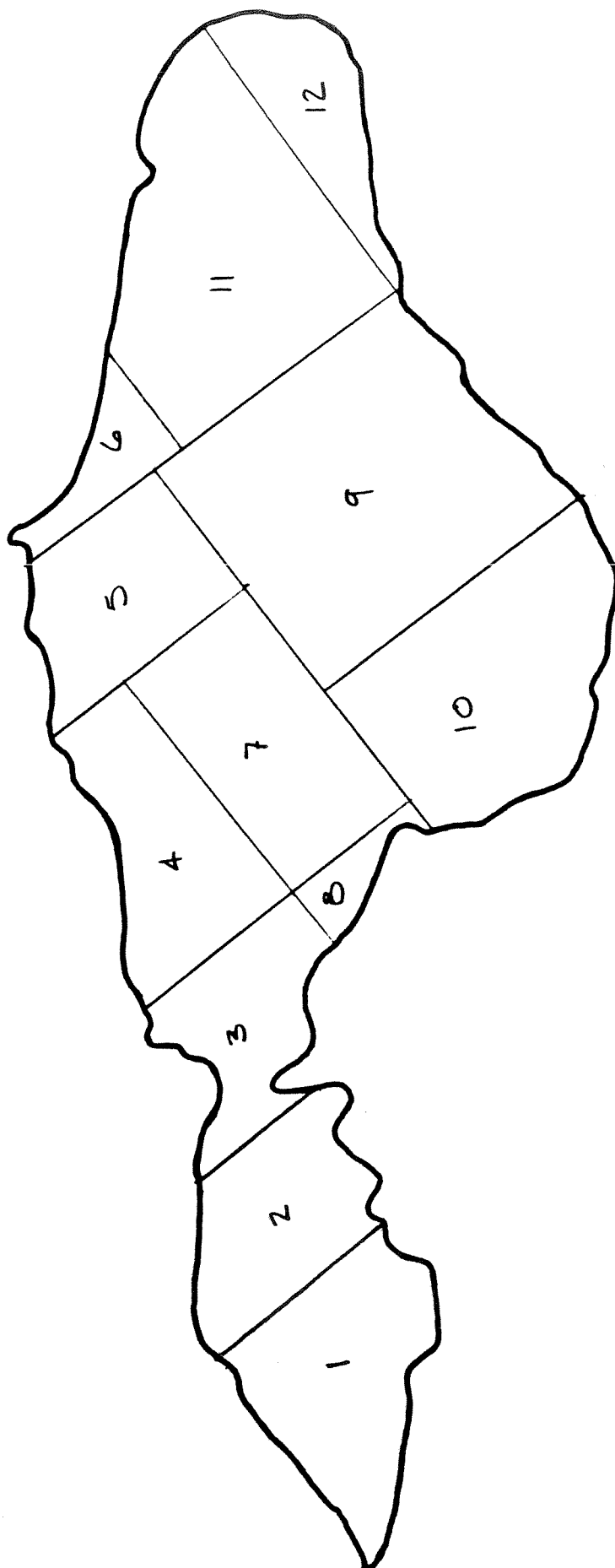
APPENDIX D

Maps

APPENDIX D. Maps

This appendix contains maps that can be used to implement the Specific Plan. Maps 1-12 show the locations of various places (see table below) mentioned in the Specific Plan, significant ecological areas, Los Angeles County Assessor lots and major ridgelines. Maps 13A, 13B, 14A and 14B show detailed information about the Two Harbors area.

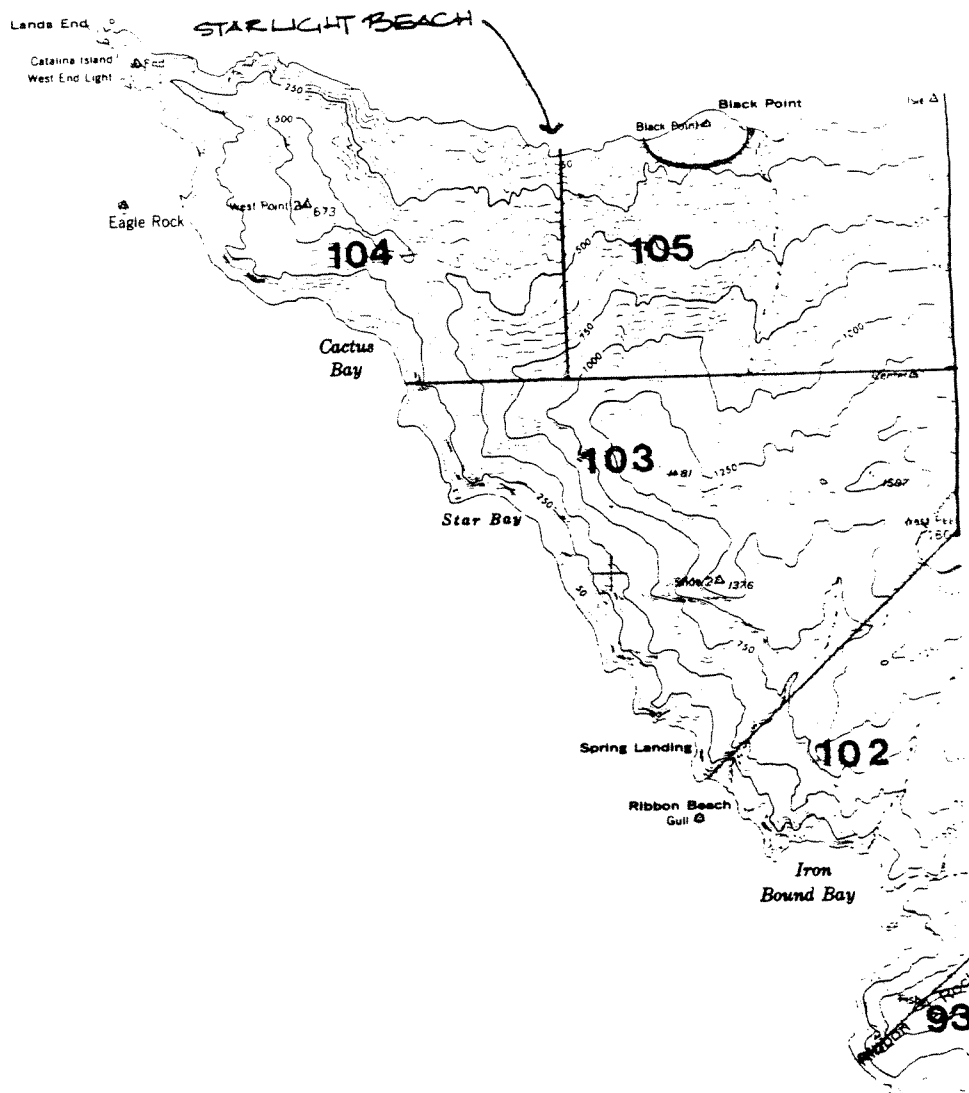
<u>Location</u>	<u>Map No.</u>
Airport Hub - LACA Lot 71	4, 5, 7
Avalon Canyon - LACA Lots 7, 8, 9, and 14	11
Ben Weston Beach - LACA Lot 44	10
Big Fisherman's Cove - LACA Lot 86	3
Big Geiger Cove - LACA Lot 99	2
Black Jack - LACA Lot 63	5
Buffalo Corral - LACA Lot 84	3
Button Shell Beach - LACA Lot 65	6
Cherry Cove/Valley - LACA Lot 98	2, 3
Corsair Beach - LACA Lot 99	2
Cottonwood Canyon - LACA Lots 59, 60, 61, 62 and 69	7, 8
Cottonwood Cove - LACA Lot 58	8
Eagle's Nest - LACA Lot 42	10
Emerald Bay - LACA Lot 99	2
Empire Landing - LACA Lots 82 and 83	4
Gallagher's Beach - LACA Lot 17	6
Hen Rock - LACA Lot 64	6
Howland's Landing - LACA Lot 99	2
Johnson's Landing - LACA Lot 99	2
Little Geiger Cove - LACA Lot 98	3
Little Gibraltar Harbor (Steadman Cove) - LACA Lot 67	5
Little Harbor - LACA Lot 59	8
Middle Ranch - LACA Lots 39, 40 and 41	9, 10
Moonstone Beach - LACA Lot 64	6
Parson's Landing - LACA Lot 100	2
Pebbly Beach - LACA Lots 1 and 3	11, 12
Perdition Caves - LACA Lot 85	3
Rancho Escondido - LACA Lot 60	7
Ripper's Cove - LACA Lot 82	4
Shark Harbor - LACA Lot 59	8
Spouting Caves - LACA Lot 85	8
Starlight Beach - LACA Lot 104 & 105	1
Sullivan's Beach - LACA Lot 99	2
Swain's Canyon/Echo Lake - LACA Lots 51*, 52* and 66	6*, 5
Sweetwater Canyon - LACA Lots 42, 45 and 46	9, 10
Toyon Cove - LACA Lot 52	6
Toyon/Haypress Junction - LACA Lots 16, 18 and 19	11
Two Harbors - LACA Lots 88 and 89	3
Wells' Beach Uplands - LACA Lot 97	2
White's Landing - LACA Lot 64	6




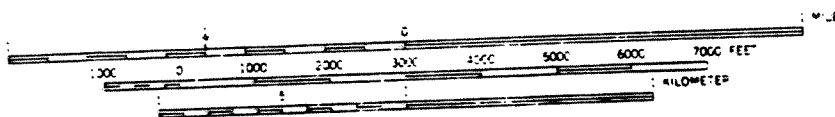
D-2

PAGE INDEX OF DETAIL MAPS
santa catalina island

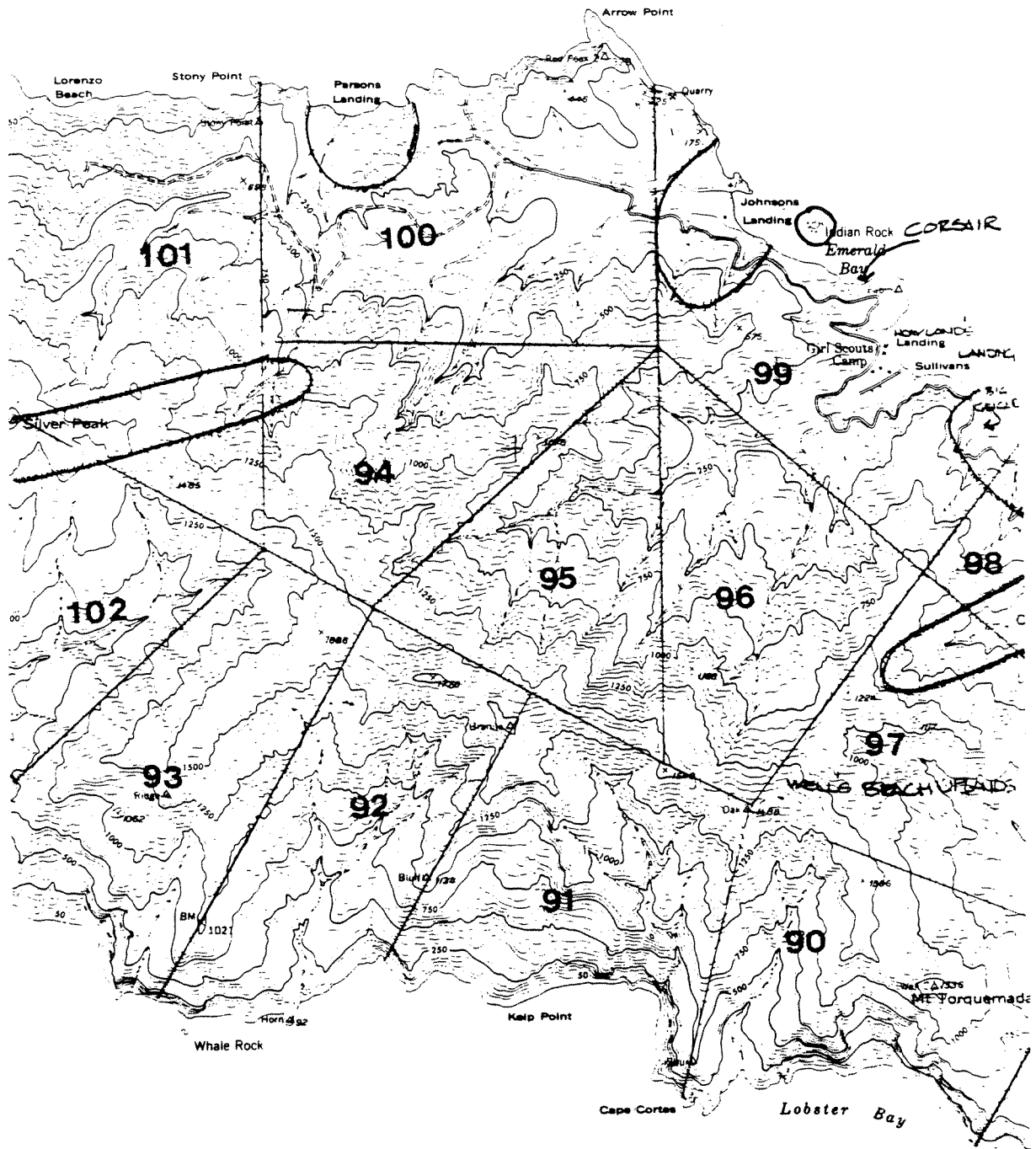




Numbers Signify Los Angeles County Assessor's Lot Numbers
 Significant Ecological Area - 



MAP 1

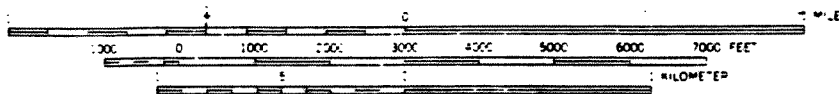


Numbers Signify Los Angeles County Assessor's Lot Numbers

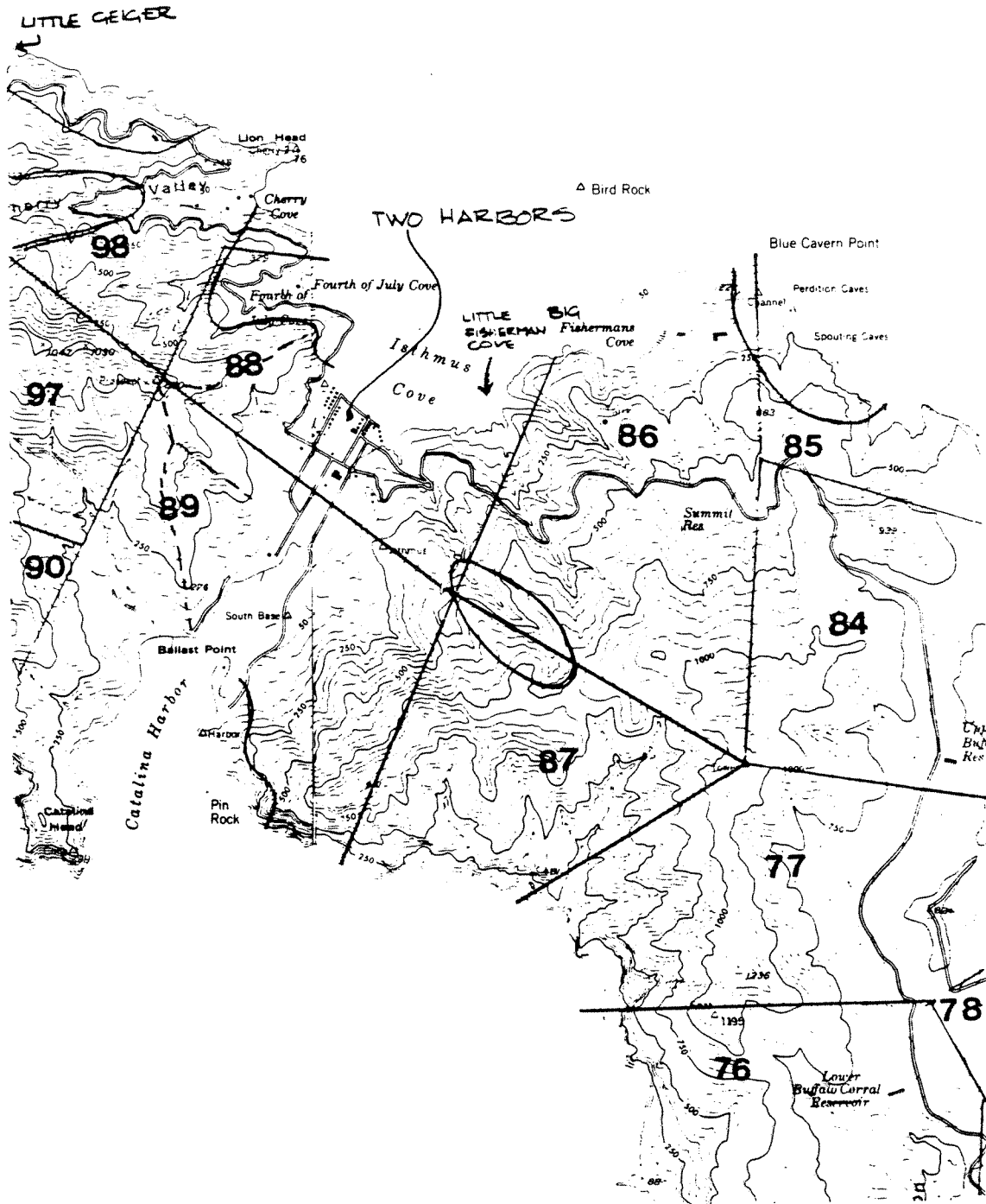
Significant Ecological Area -



Lobster Point




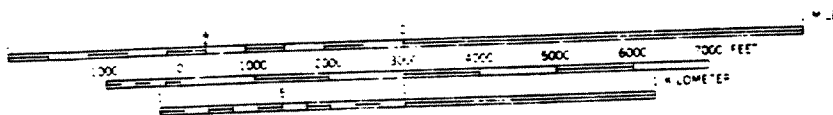
MAP 2



MAJOR RIDGELINES - - - - -

Numbers Signify Los Angeles County Assessor's Lot Numbers

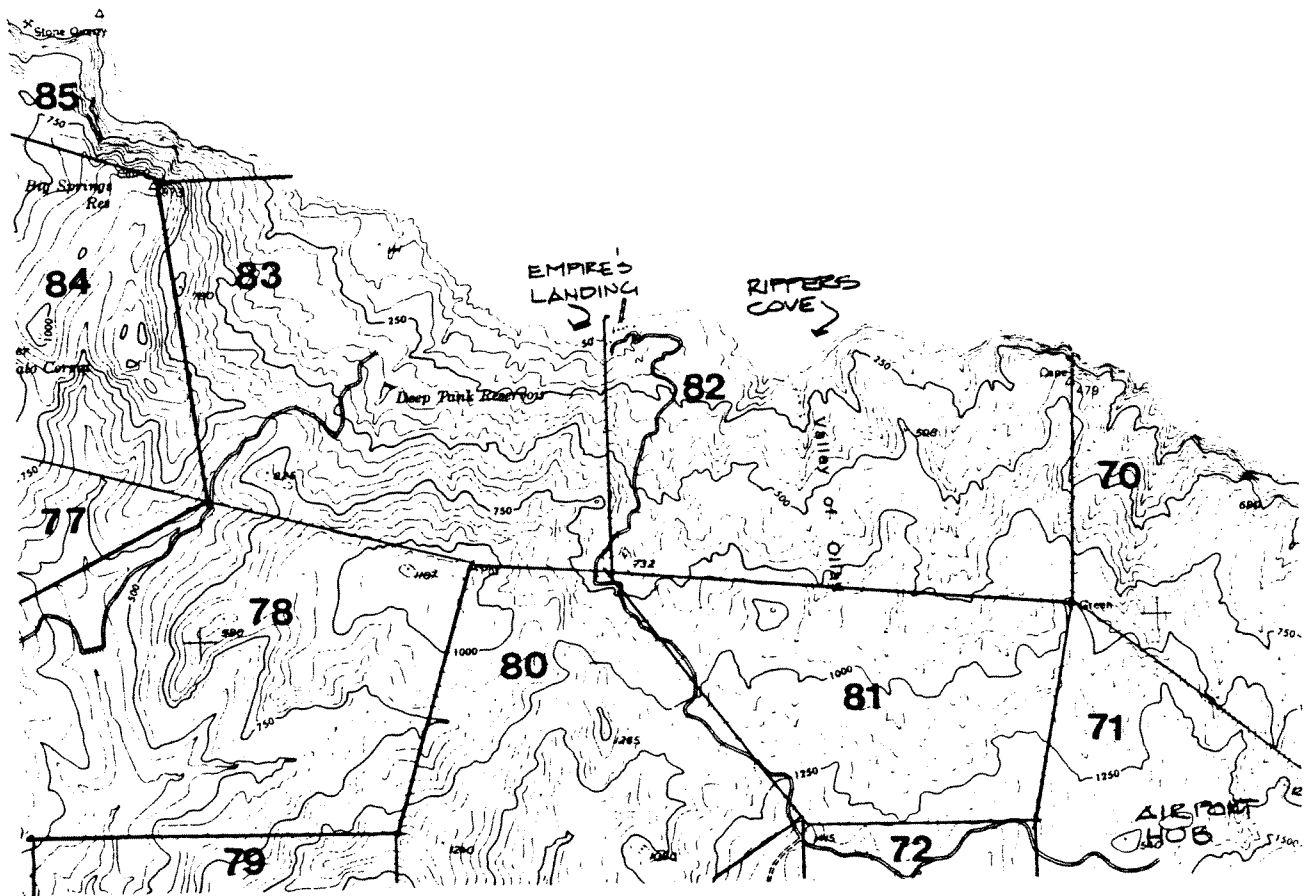
Significant Ecological Area - 



D-5

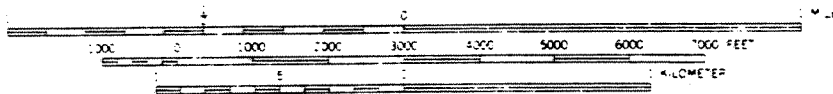


MAP 3

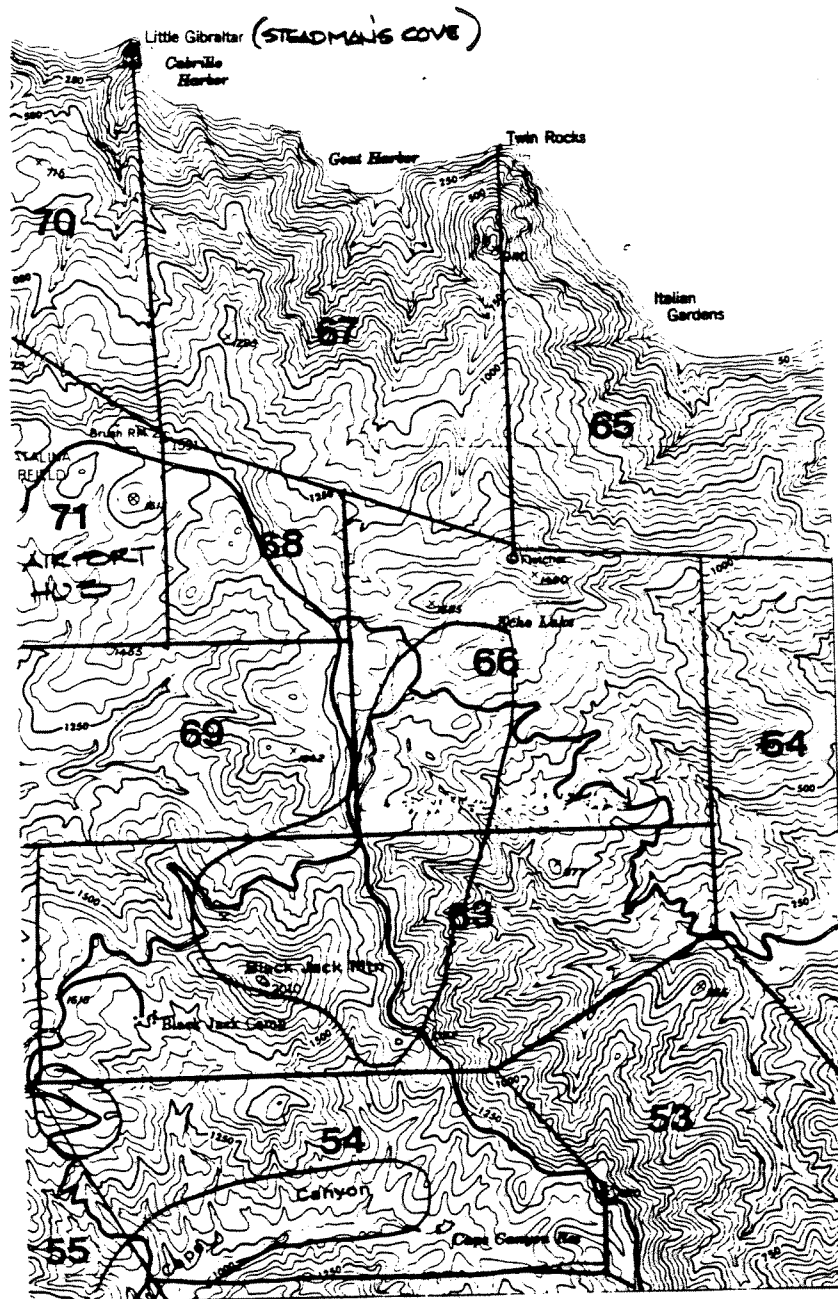



Numbers Signify Los Angeles County Assessor's Lot Numbers

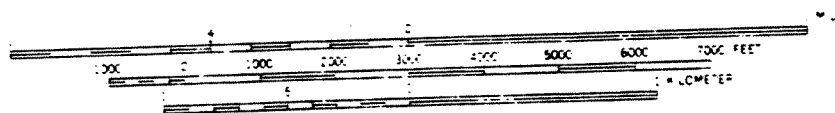
Significant Ecological Area -



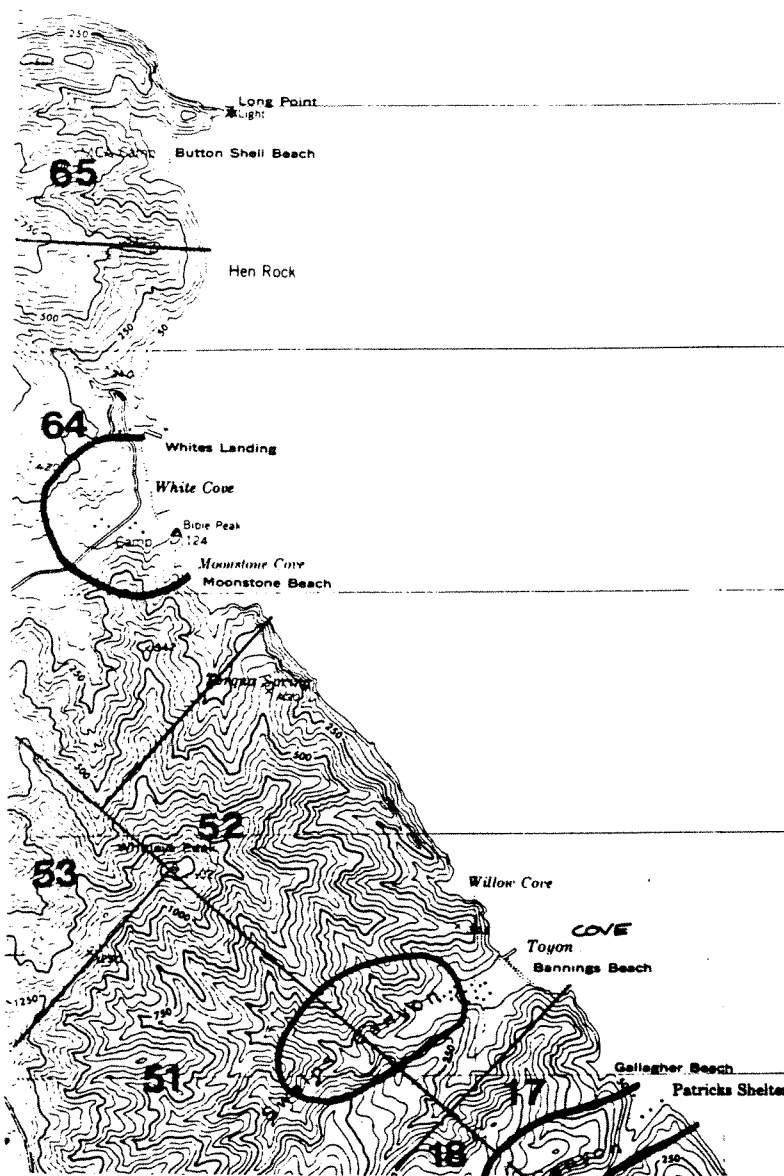
MAP 4




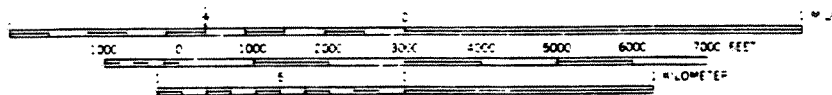
Numbers Signify Los Angeles County Assessor's Lot Numbers
 Significant Ecological Area - 



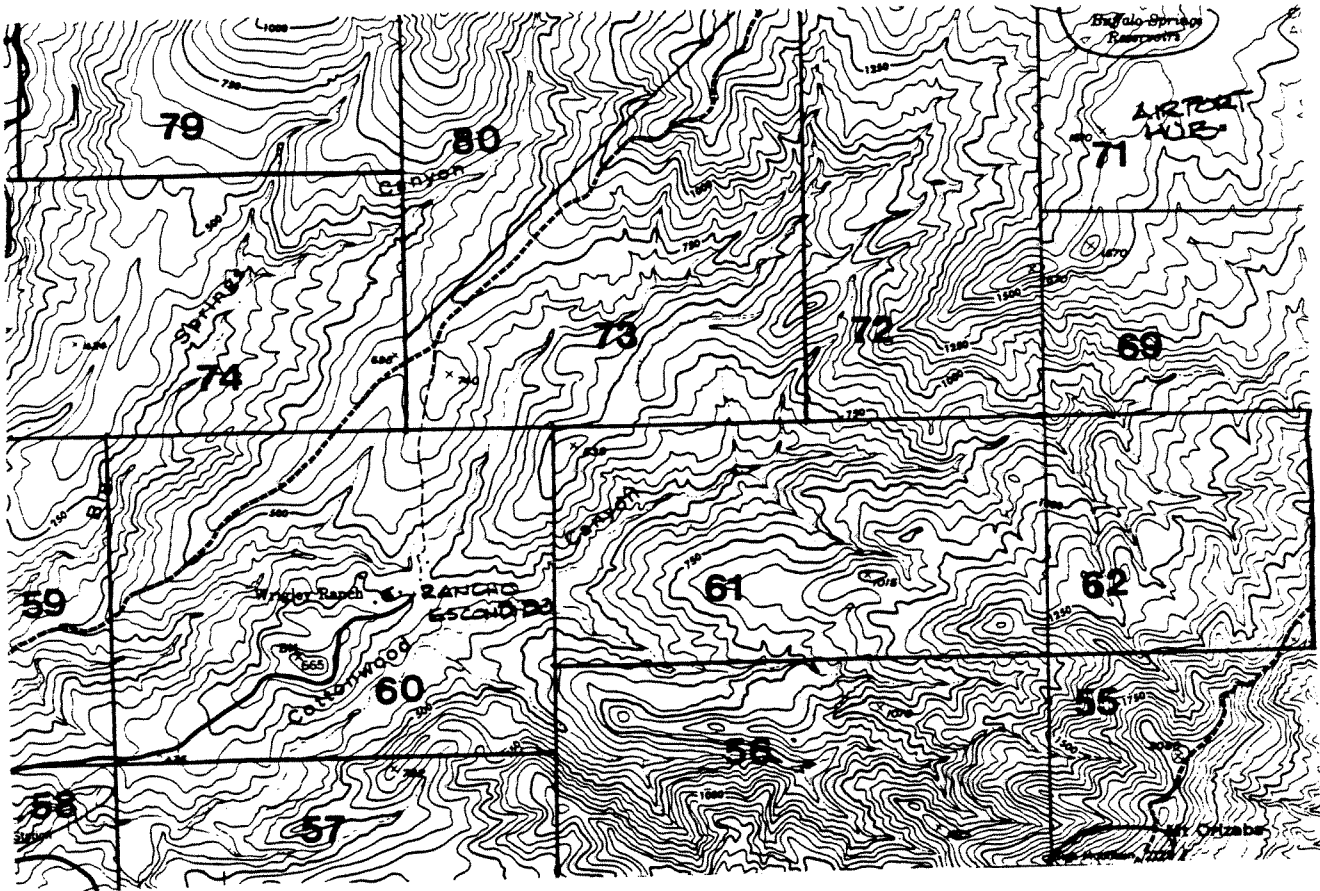
MAP 5




Numbers Signify Los Angeles County Assessor's Lot Numbers
 Significant Ecological Area - 

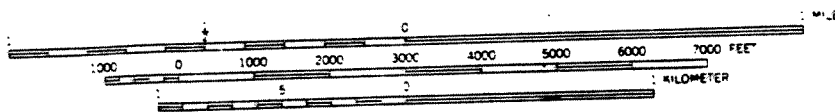


MAP 6

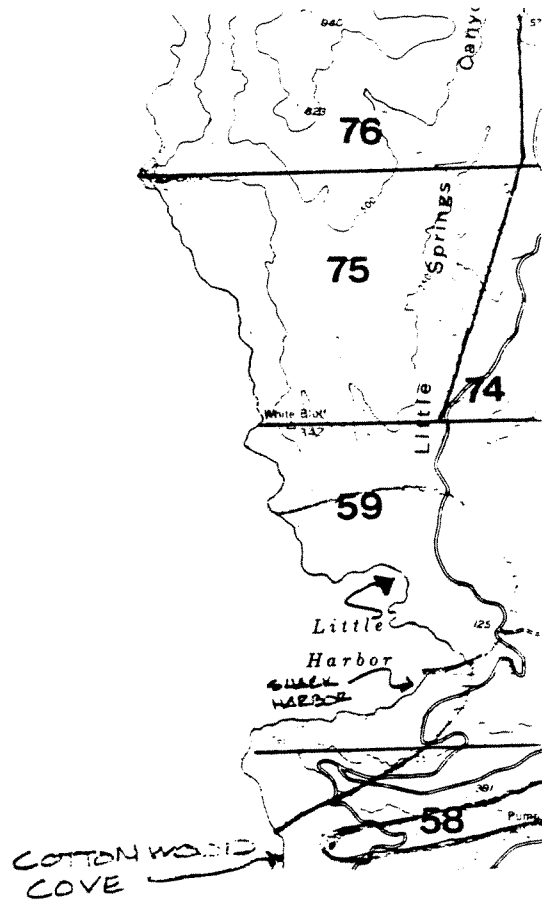



Numbers Signify Los Angeles County Assessor's Lot Numbers

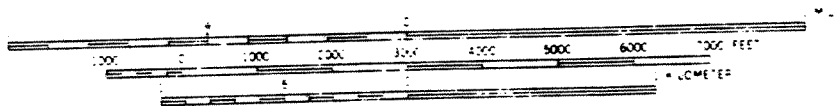
Significant Ecological Area - 

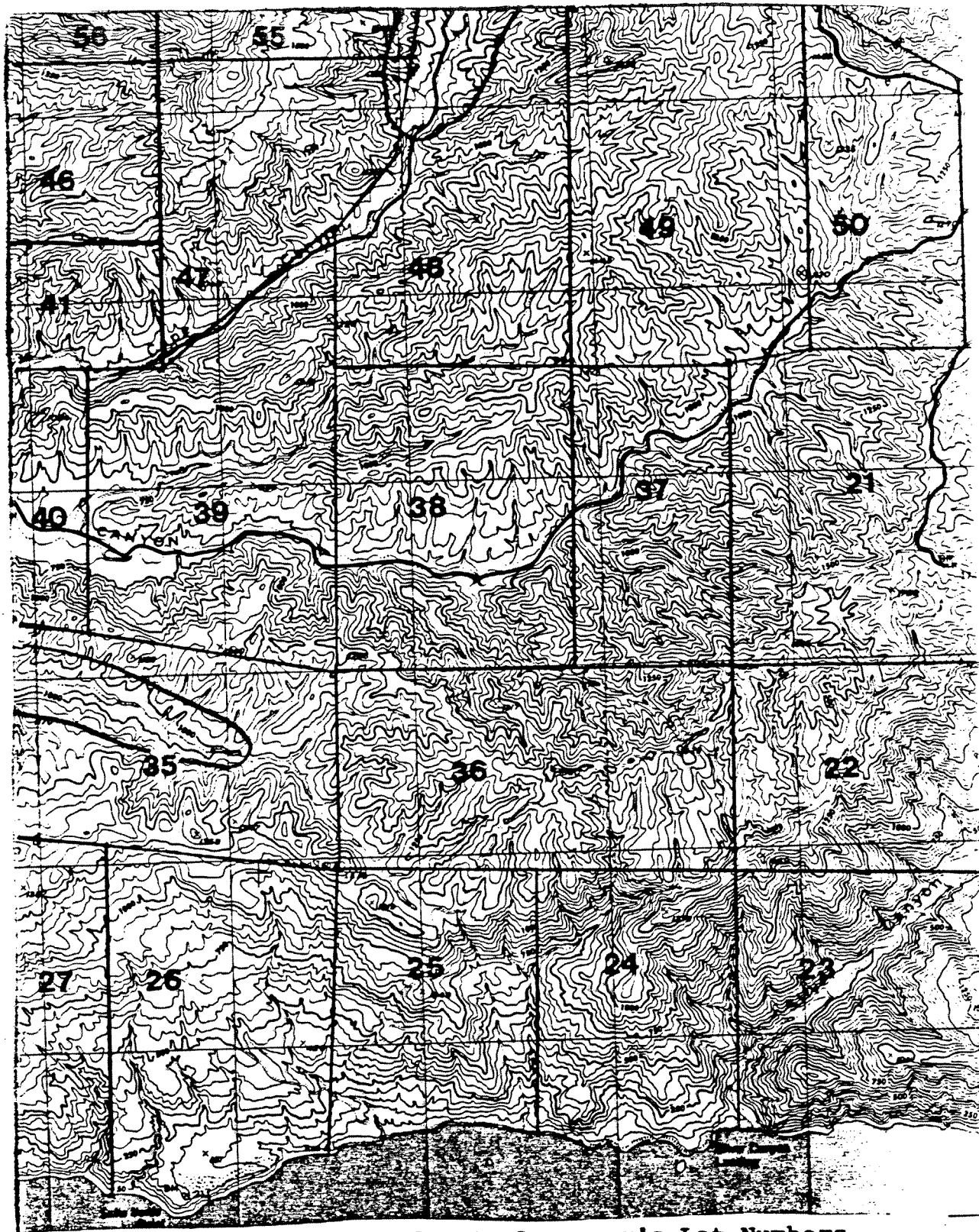


MAP 7



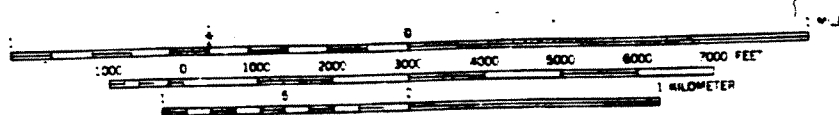
Numbers Signify Los Angeles County Assessor's Lot Numbers
 Significant Ecological Area - 



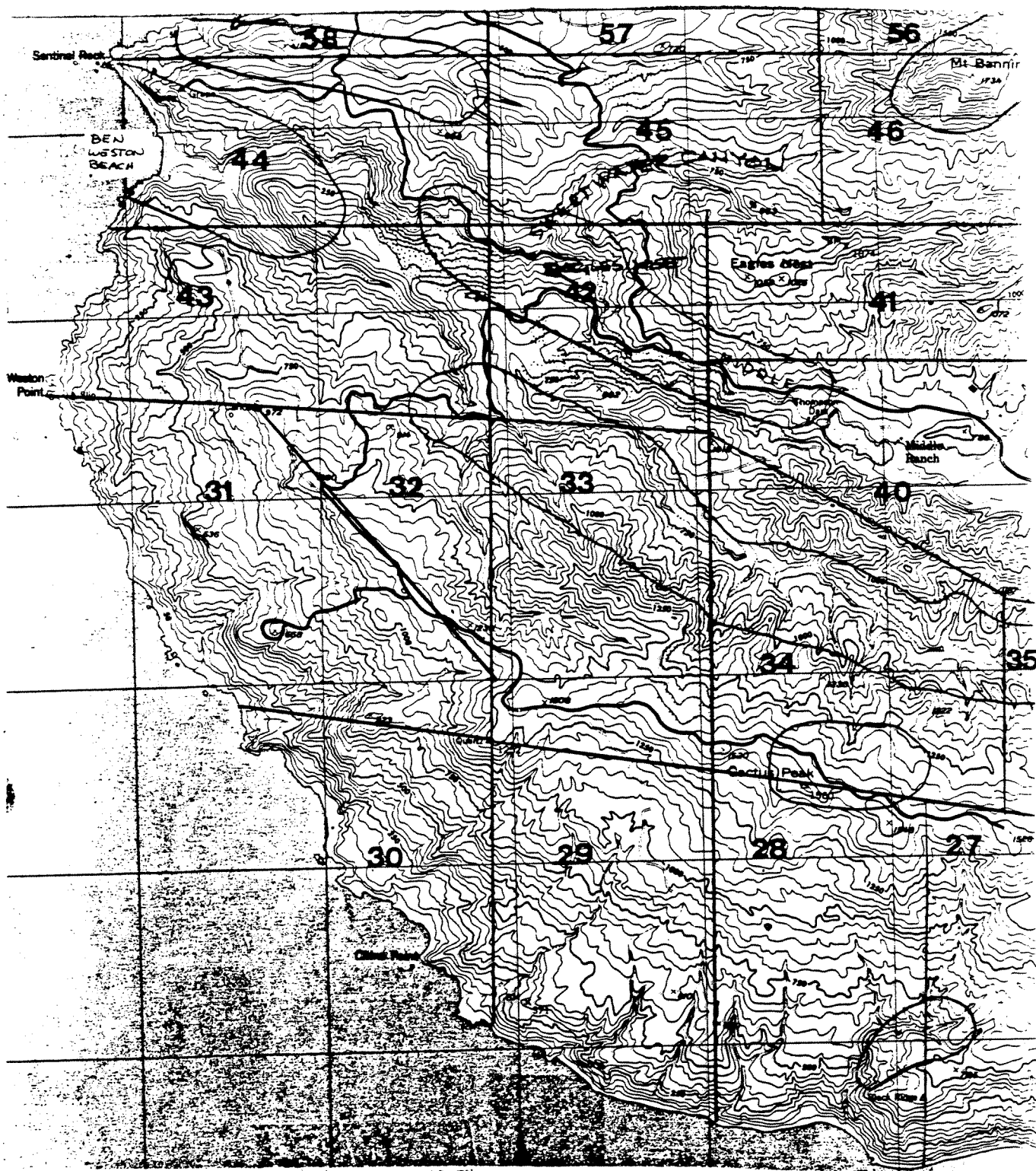


Numbers Signify Los Angeles County Assessor's Lot Numbers

Significant Ecological Area -

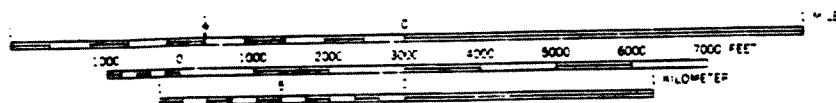


MAP 9

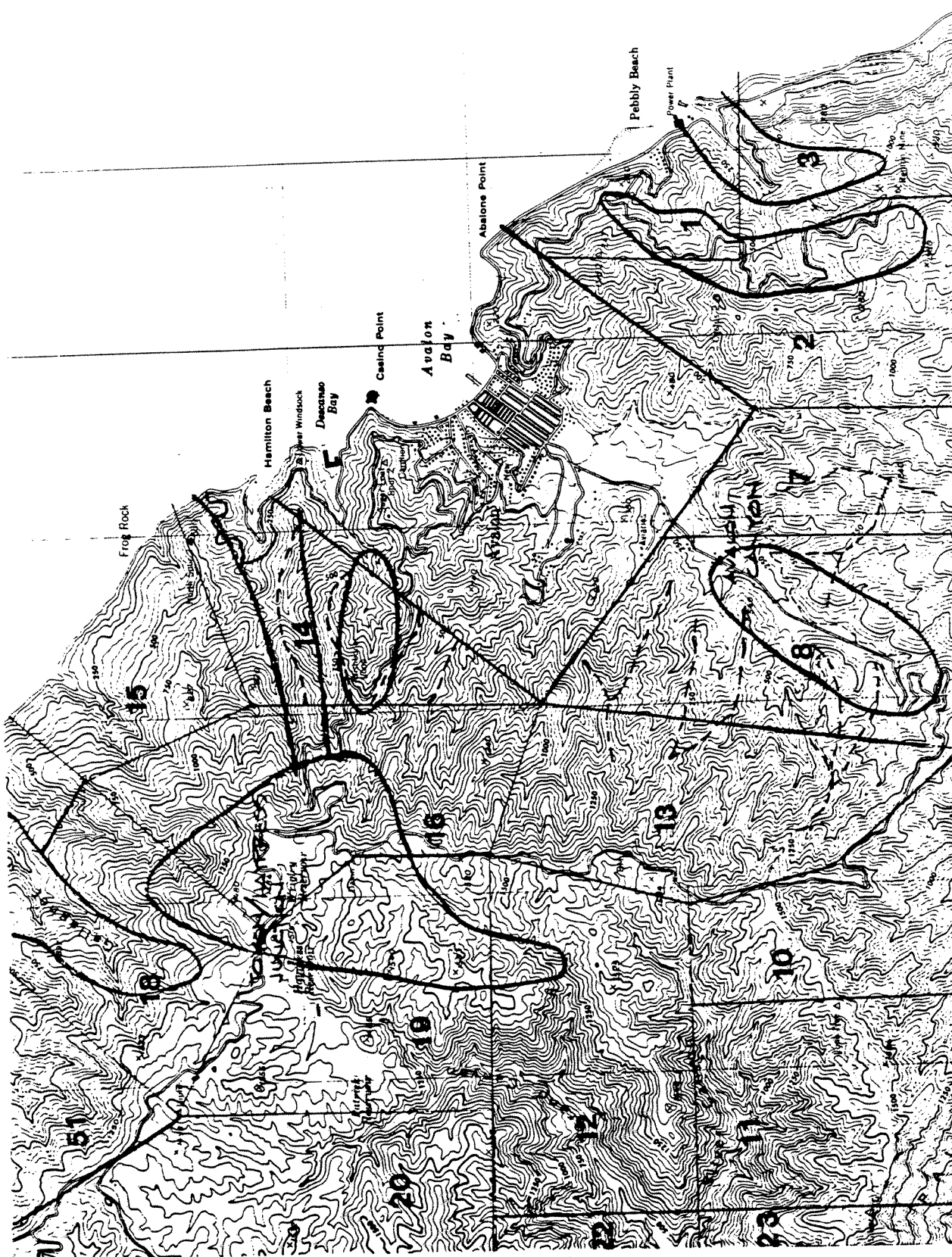


Numbers Signify Los Angeles County Assessor's Lot Numbers

Significant Ecological Area -



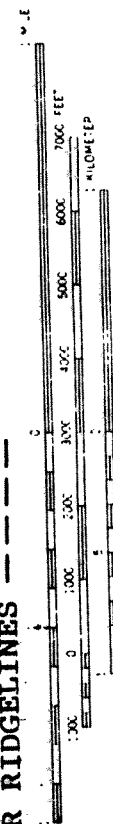
MAP 10

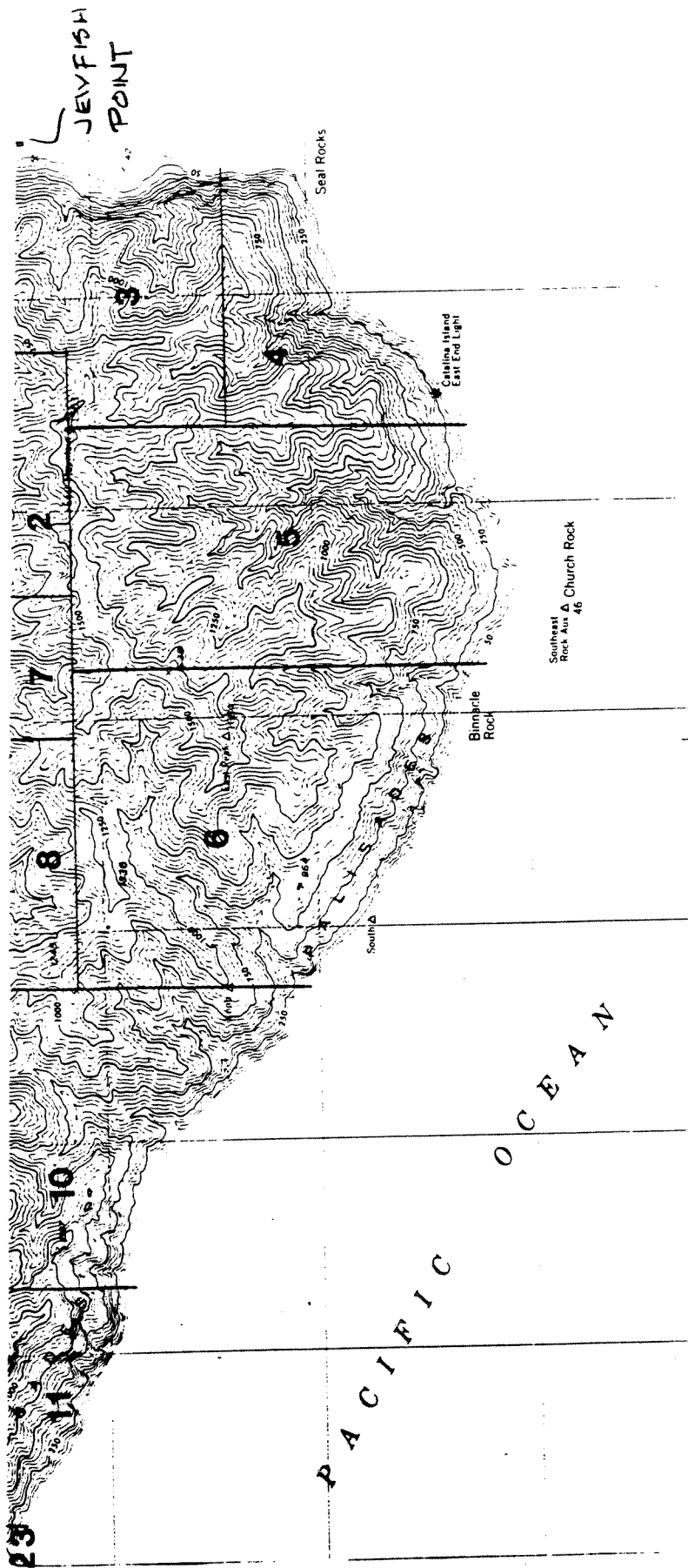


Numbers Signify Los Angeles County Assessor's Lot Numbers

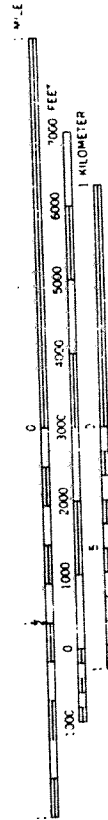
Significant Ecological Area -

MAJOR RIDGELINES - - - -





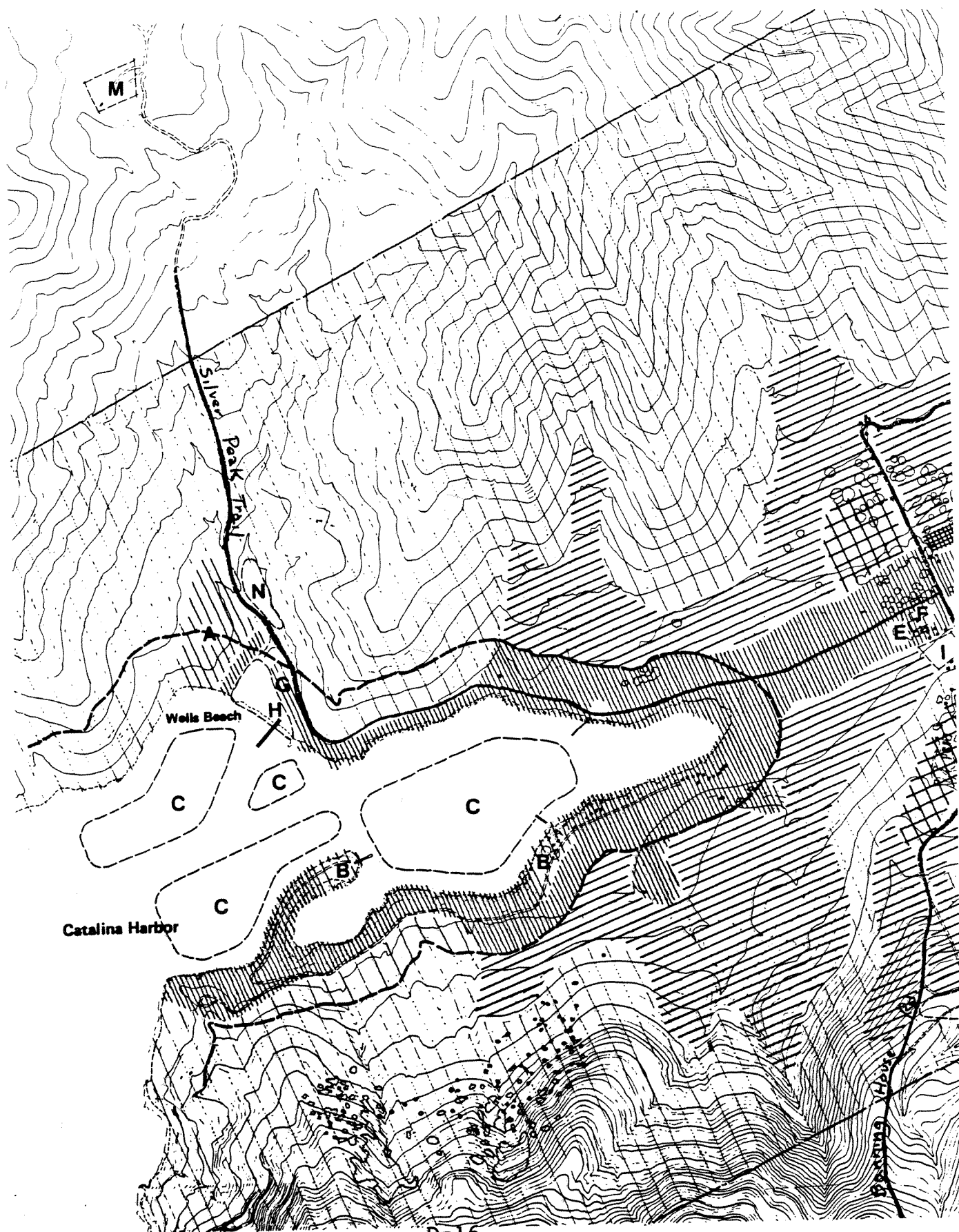
Numbers Signify Los Angeles County Assessor's Lot Numbers
Significant Ecological Area -



MAP 12

Two Harbors' Maps

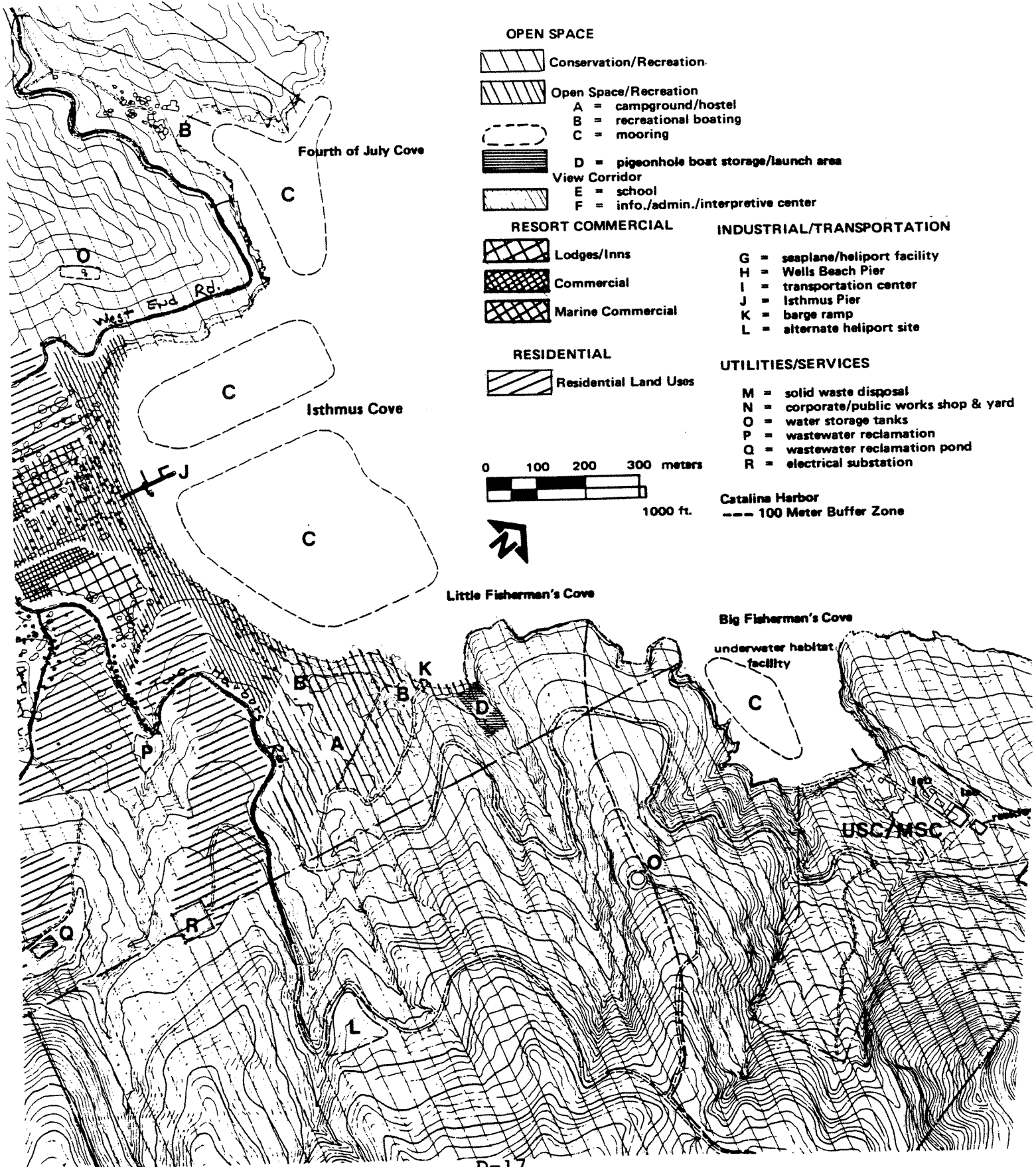
local coastal program TWO HARBORS LAND USE



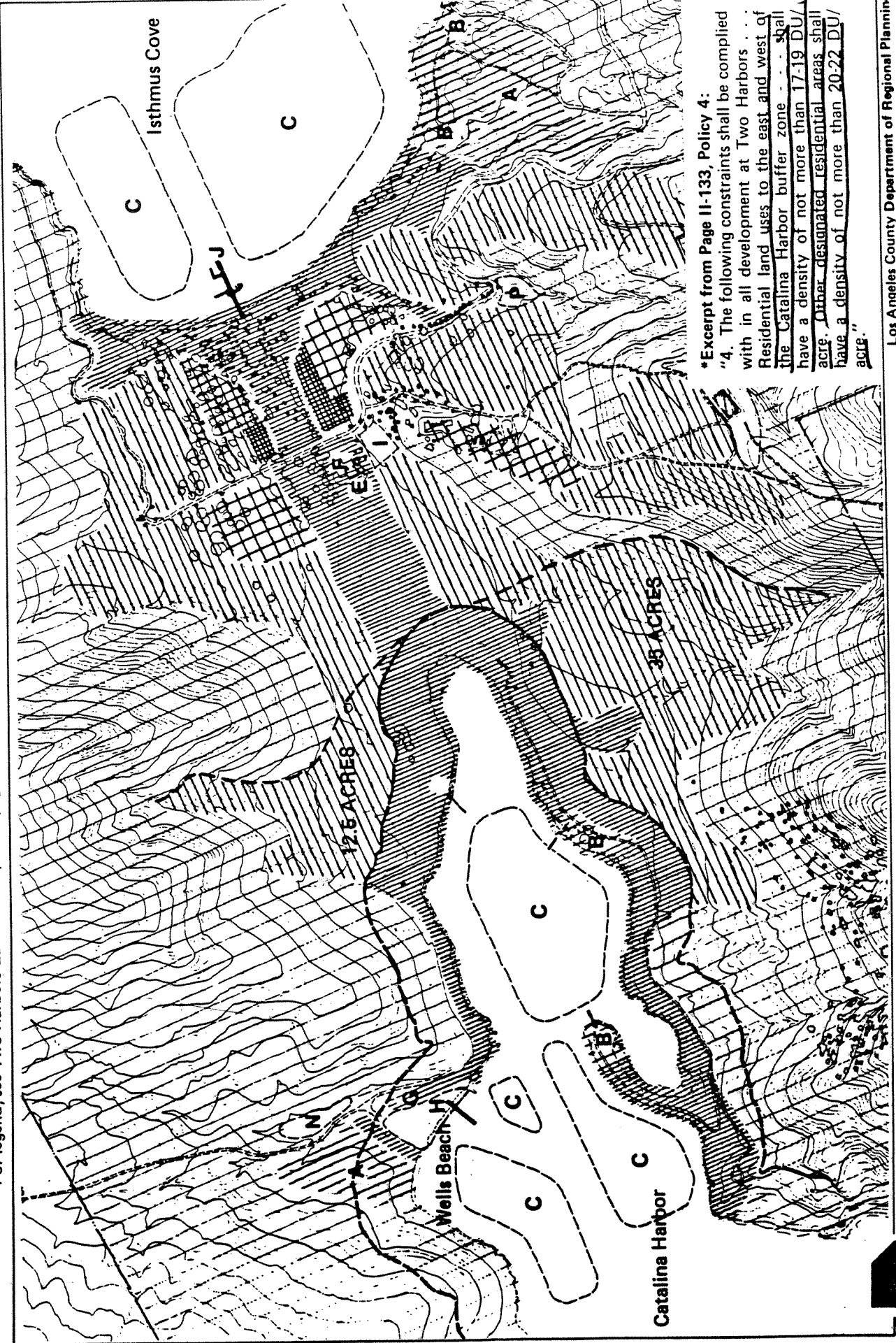
D-16

santa catalina island plan

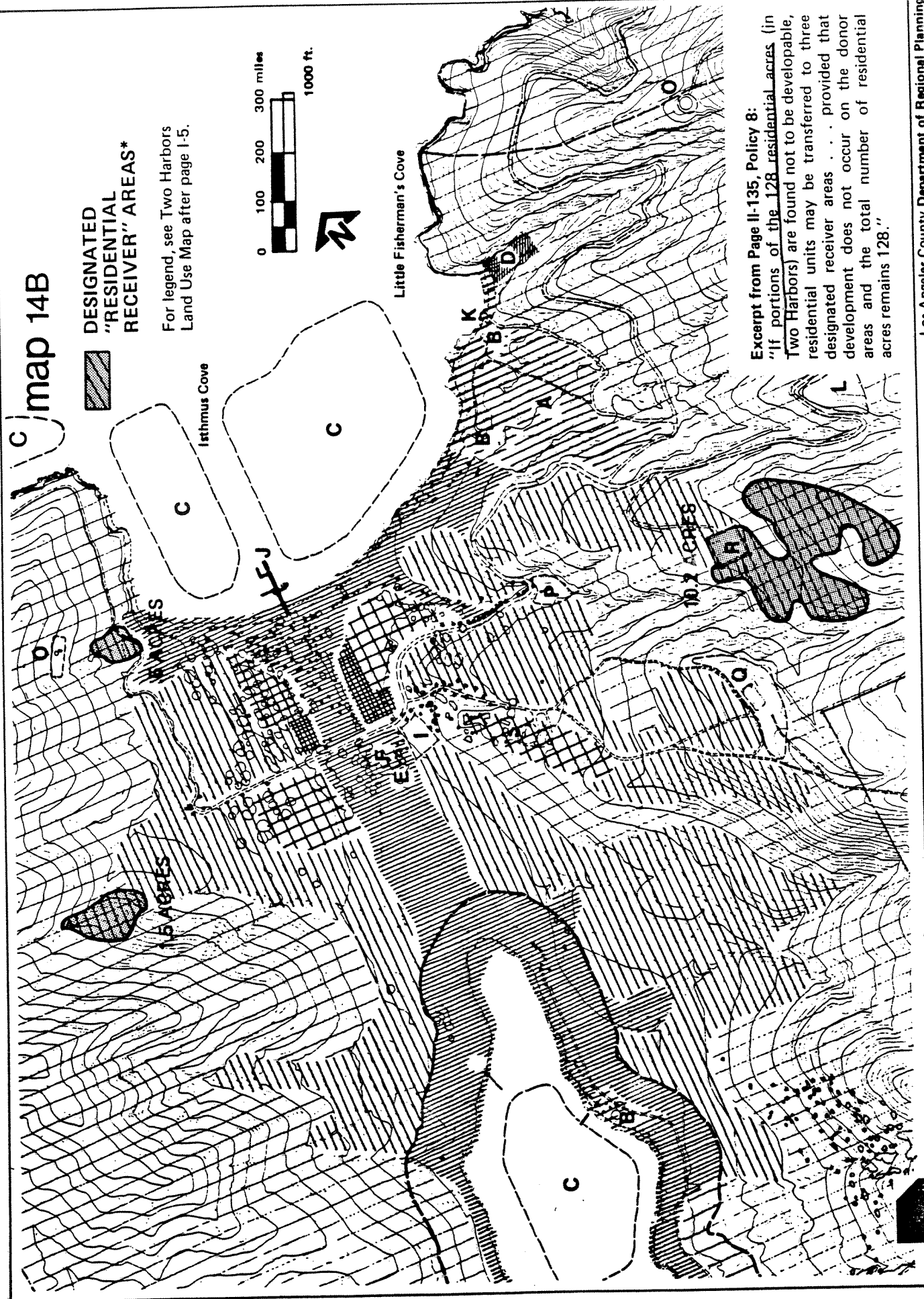
TWO HARBORS LAND USE



map 14A RESIDENTIAL LAND USE DENSITIES IN TWO HARBORS*
For legend, see Two Harbors Land Use Map after page I-5.



*Excerpt from Page II-133, Policy 4:
"4. The following constraints shall be complied with in all development at Two Harbors . . . Residential land uses to the east and west of the Catalina Harbor buffer zone . . . shall have a density of not more than 17-19 DU/acre. Other designated residential areas shall have a density of not more than 20-22 DU/acre."

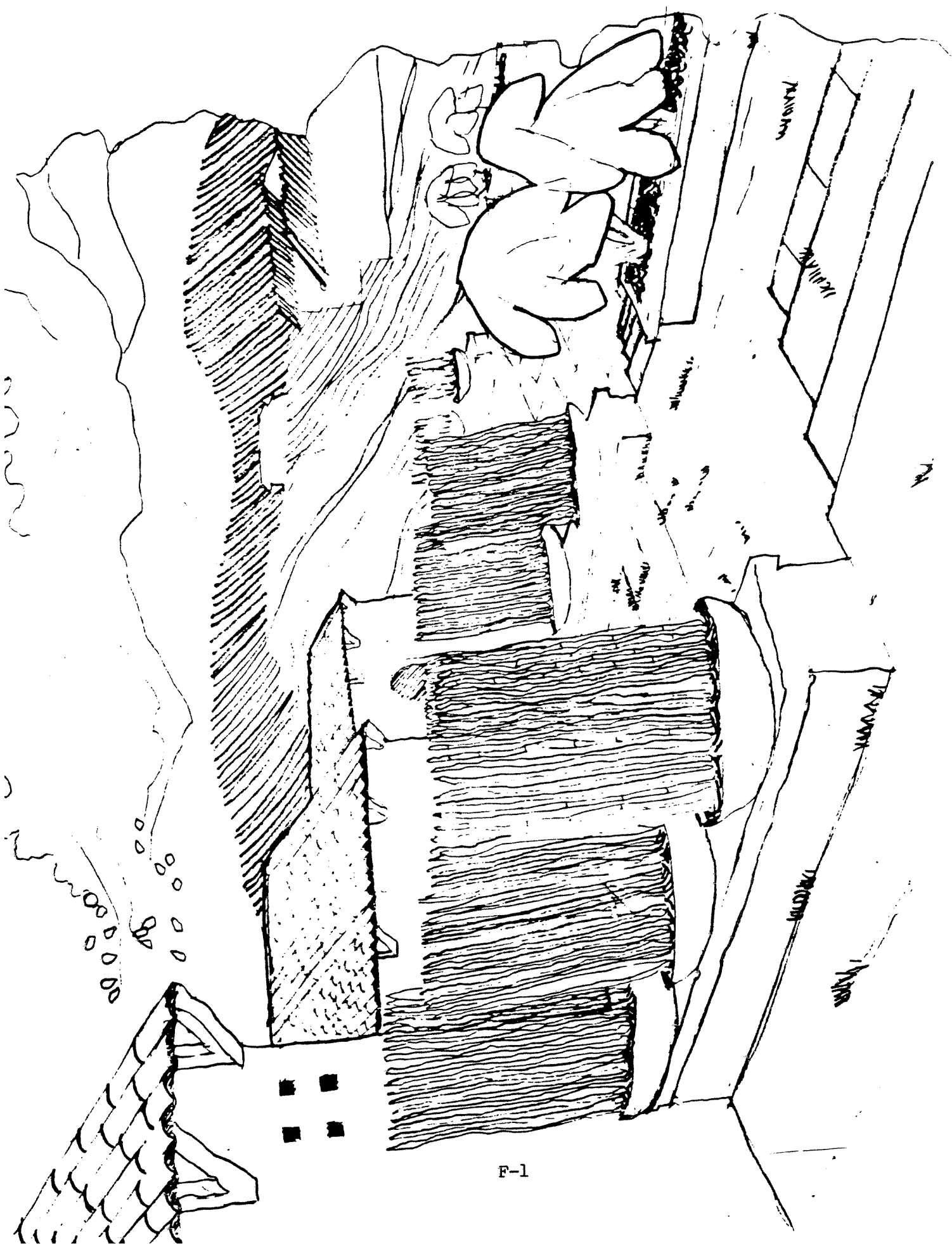


Excerpt from Page II-135, Policy 8:
 "If portions of the 128 residential acres (in Two Harbors) are found not to be developable, residential units may be transferred to three designated receiver areas . . . provided that development does not occur on the donor areas and the total number of residential acres remains 128."

APPENDIX F. Architectural and Design Illustrations

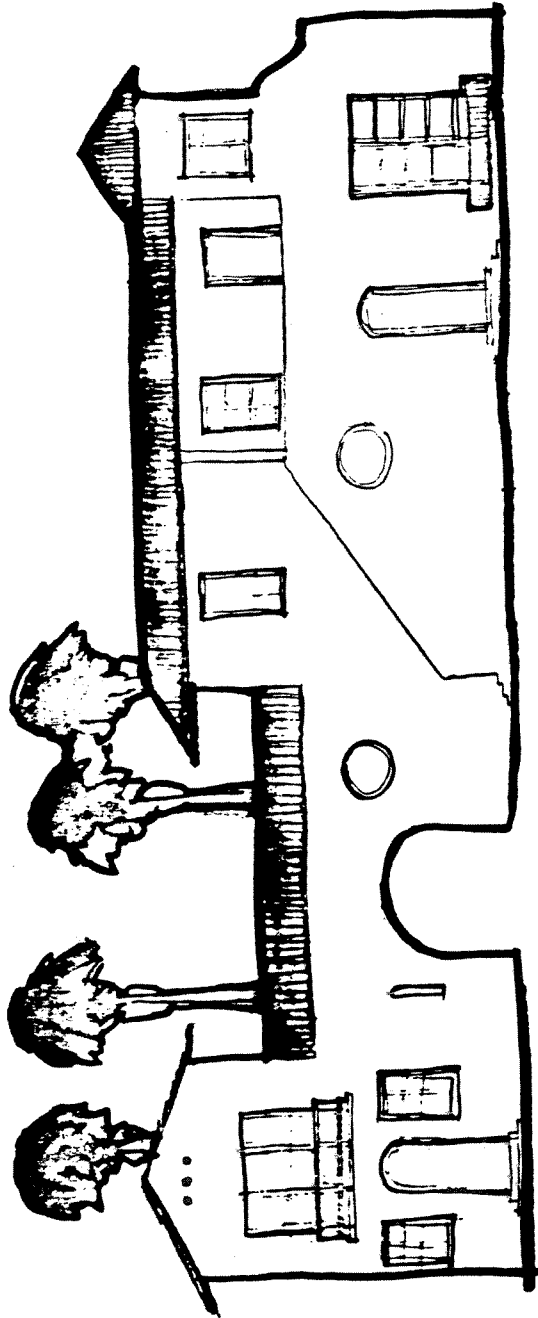
The diagrams and illustrations contained in this appendix are intended to provide examples of various architectural, aesthetic, and design standards contained in the Specific Plan. Decision makers and developers should consider these drawings to be samples of the styles that are to be implemented on Santa Catalina Island, but they are not intended to convey the entire range of architectural features.

1. Patios.
2. Mediterranean Facade Elevation.
3. Mediterranean Details.
4. Victorian Style - Example.
5. Stone Rustic Bungalow.
6. Visitor Information Pavilion.
7. SAVE Zone: Open Space Corridor.
8. Grading Diagrams.



F-1

PATIOS

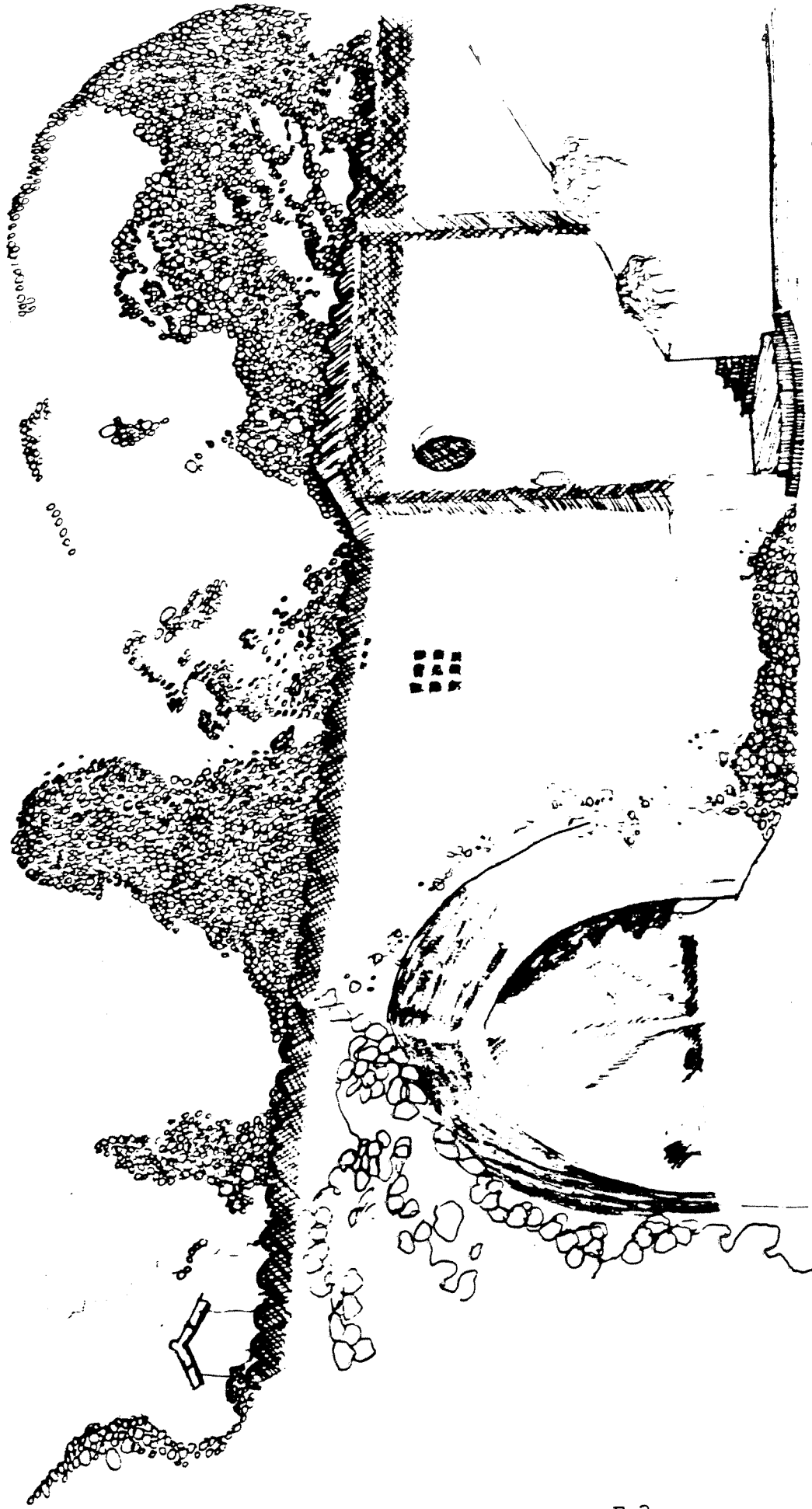


ENTRANCE 4

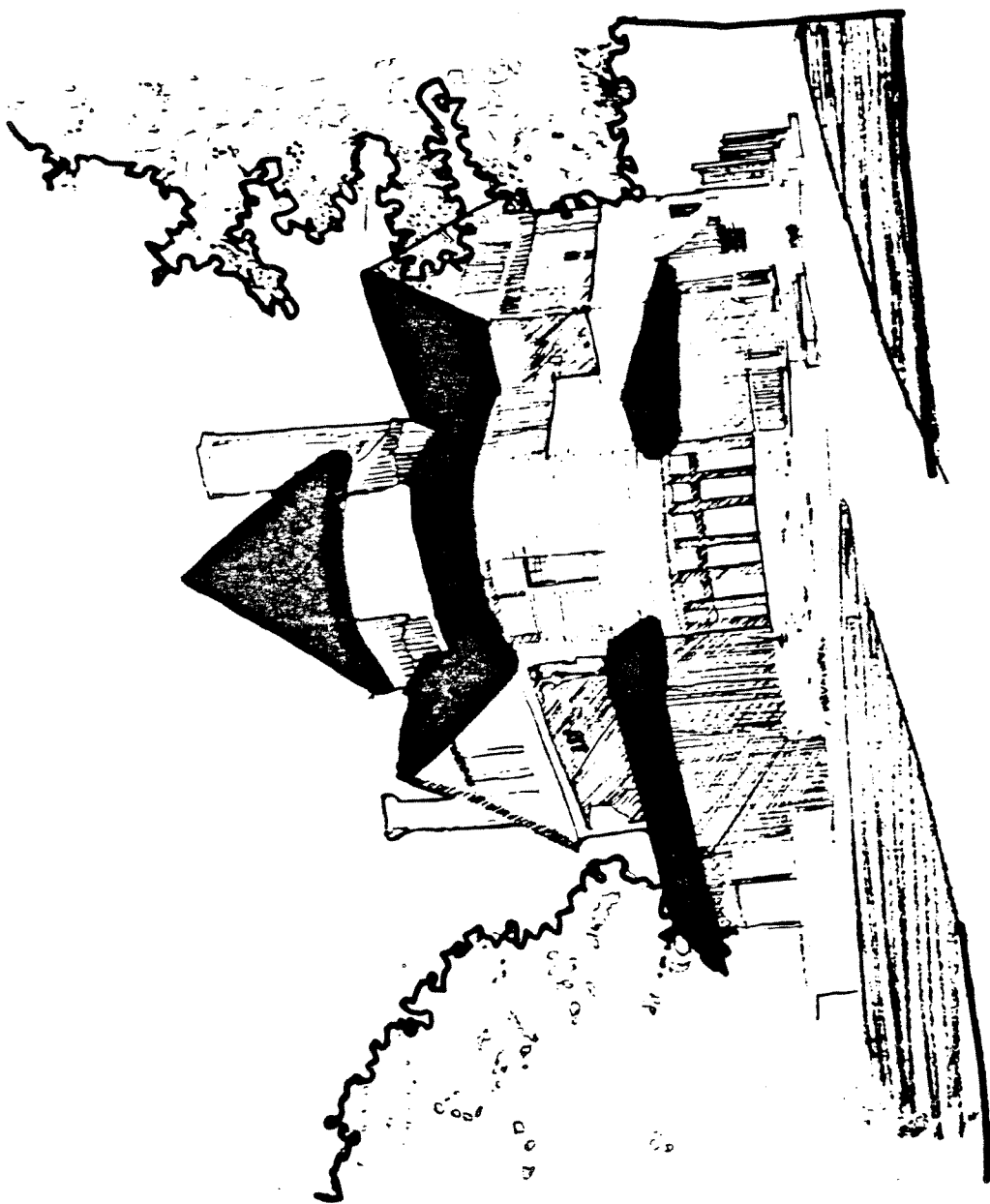
ENTRANCE 2
COURTYARD
APARTMENTS

ENTRANCE 1

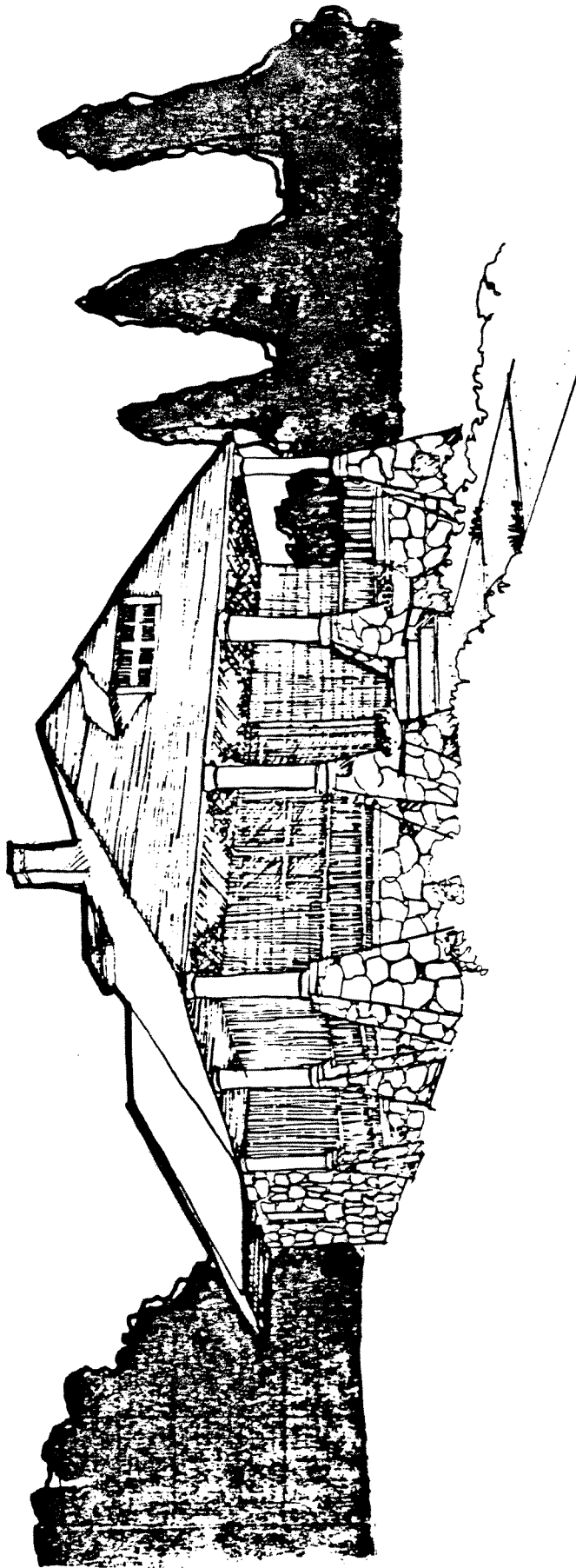
EXAMPLE - MEDITERRANEAN FACADE 4 OR MORE UNITS



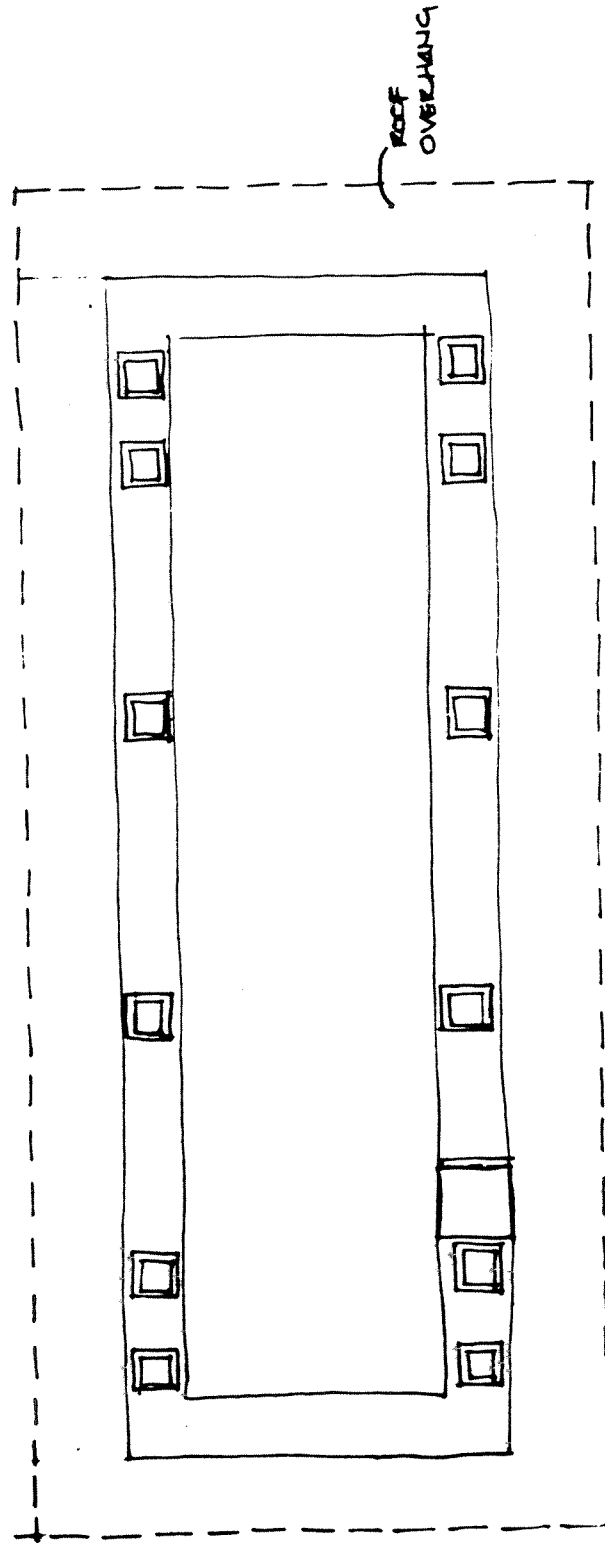
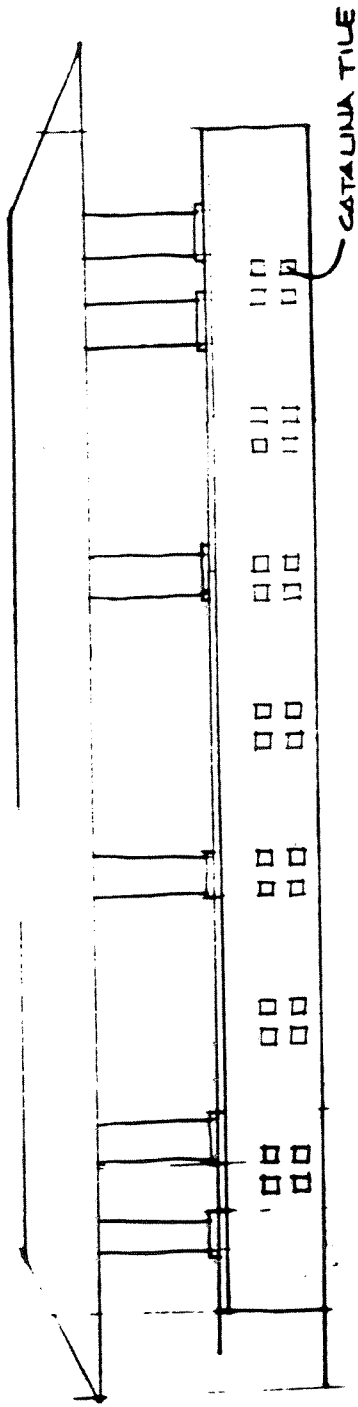
MEDITERRANEAN DETAILING



EXAMPLE VICTORIAN

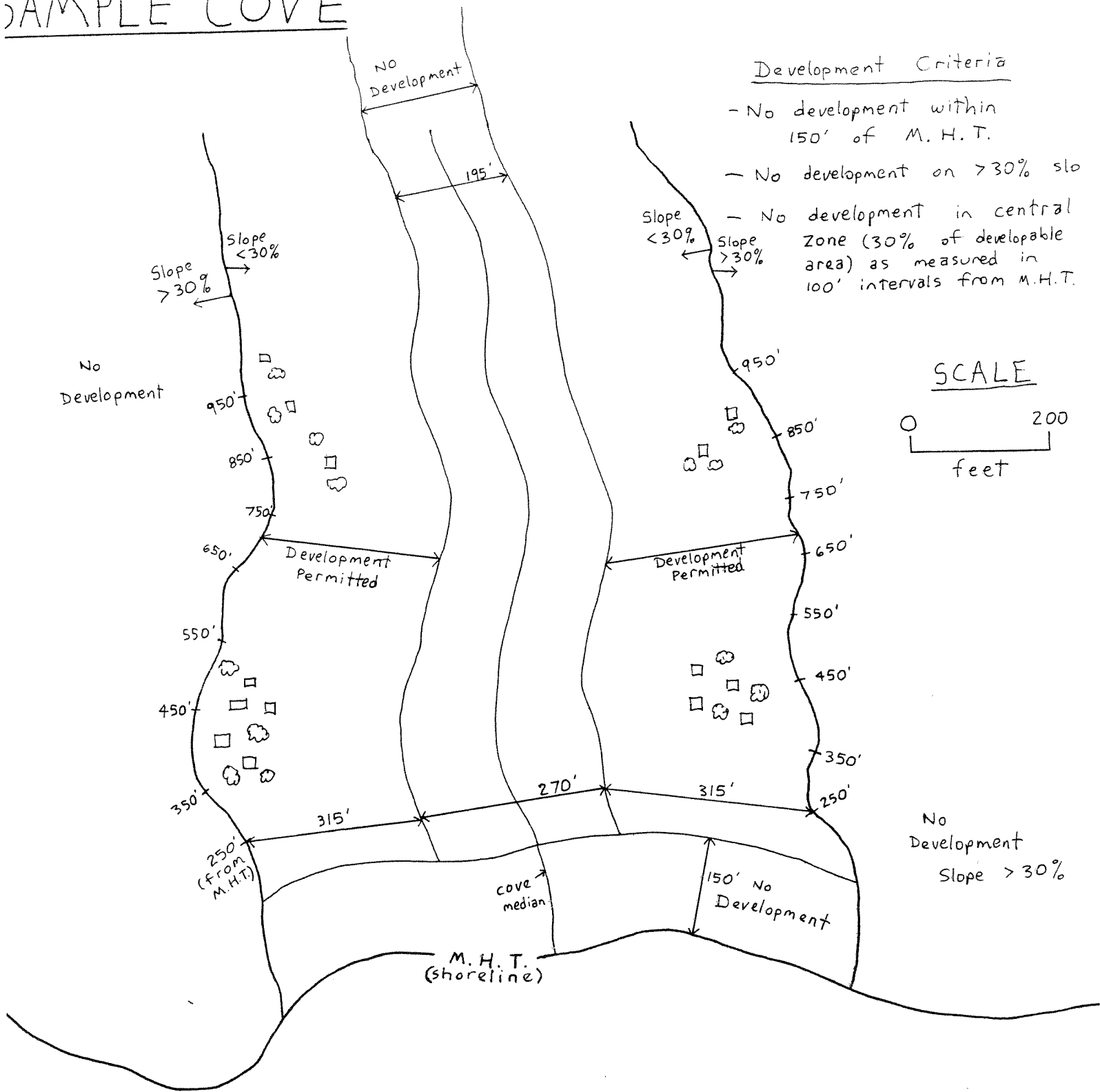


EXAMPLE STONE RUSTIC BUNGALOW



VISITOR INFORMATION PAVILION

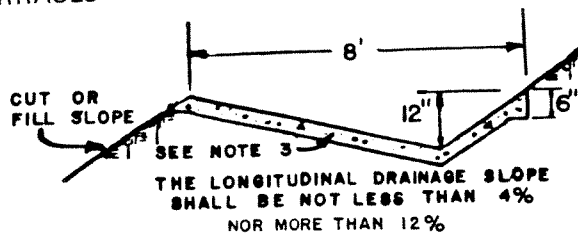
SAMPLE COVE



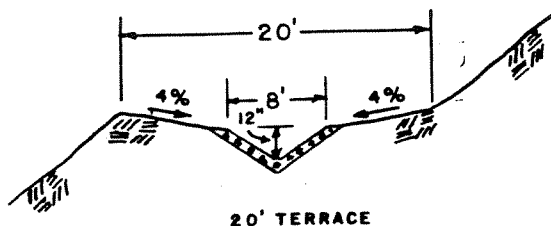
TERRACES FOR CUT-FILL SLOPE:

Cut slopes more than 40 feet in height and fill slopes more than 30 feet in height shall have drainage terraces provided at vertical intervals not exceeding 25 feet. Such terraces shall have a minimum width of 8 feet (total horizontal distance) and depth of one foot at the flow line. For cut or fill slopes over 100 feet high, one drainage terrace near midheight shall be not less than 20 feet in width, eight feet of which shall be paved. The design and construction of drainage terraces shall conform to Section 7018d.

TERRACES

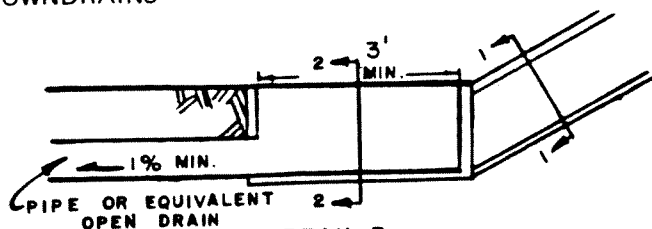


DETAIL A
TYPICAL TERRACE DRAIN

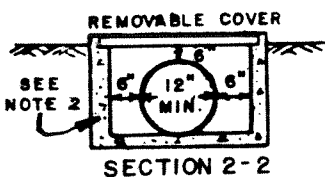


DETAIL A'

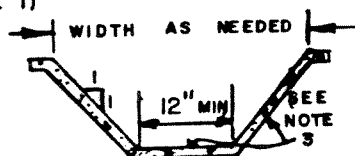
DOWNDRAINS



DETAIL B
TYPICAL DOWN DRAIN
(SEE NOTE 1)



SECTION 2-2



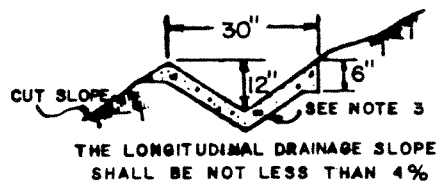
SECTION 1-1

NOTES

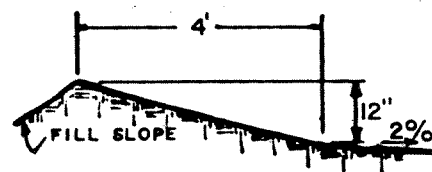
1. Downdrains shall be so located that no point on a terrace drain is more than 300' from a down drain.
2. This structure to be poured concrete, grouted 6" concrete block or gunite — *single wall common brick not permitted.*
3. Swales and terraces to be 3" gunite or concrete with 6 x 6 #10/#10 wire mesh.

OVERFLOW PROTECTION:

Swales, Berms or other devices shall be provided at the top of cut or fill slopes to prevent surface waters from overflowing onto and damaging the face of the slope. Special drainage provisions shall be made where a building or structure exists within five feet of the top of a slope.



DETAIL C
TYPICAL PAVED SWALE



DETAIL D
TYPICAL BERM AT TOP OF ALL FILL SLOPES

MAINTENANCE OR PROTECTIVE DEVICES:

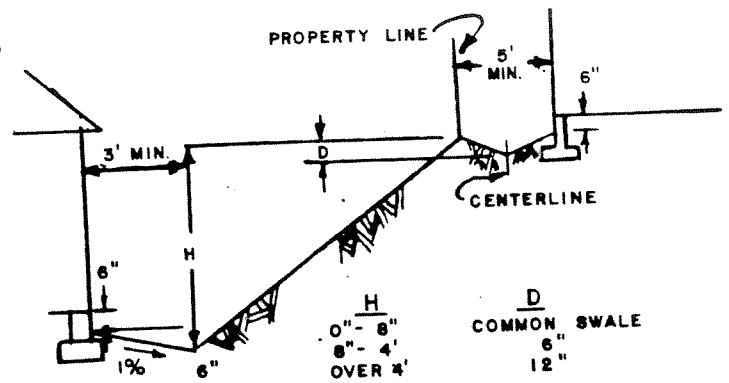
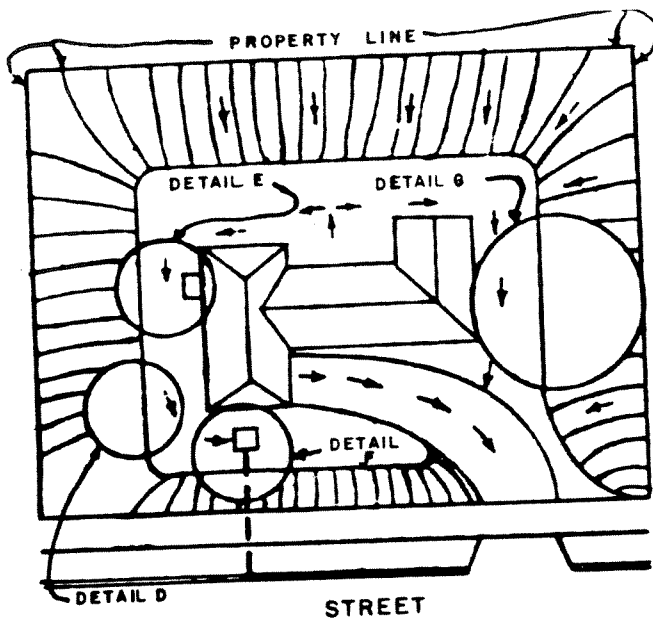
The owner of any property on which grading has been performed pursuant to a permit issued under the provisions of this code or any other person or agent in control of such property shall maintain in good condition and repair all drainage structures and other protective devices shown on the grading plans filed with the application for grading permit and approved as a condition precedent to the issuance of such permit.

OFF SITE GRADING LETTERS:

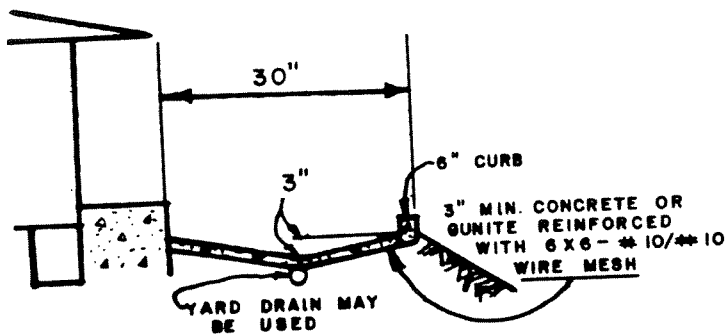
Whenever the developer of a parcel of land is required to do work outside of his property, it is necessary for the developer to obtain written permission from the adjoining property owner. The letter must contain the following items:

1. Description of property affected.
2. A statement certifying that the signer is the owner of the off site property.
3. Acknowledgement that the owner has reviewed the grading plans and that he consents to the work proposed on his property.
4. He shall hold the County of Los Angeles free and clear of any liability for damages due to proposed work.
5. Where necessary a statement that he will irrigate planted slopes and maintain slopes and drains located within his property.

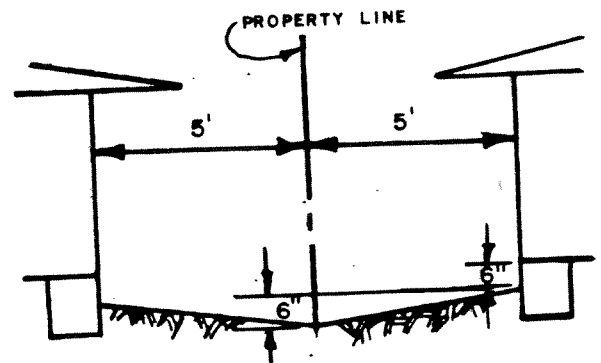
This letter must be acknowledged before a notary public. Two copies of the completed letter must be submitted before issuance of grading permit.



DETAIL G
TYPICAL SIDE YARD DRAINAGE



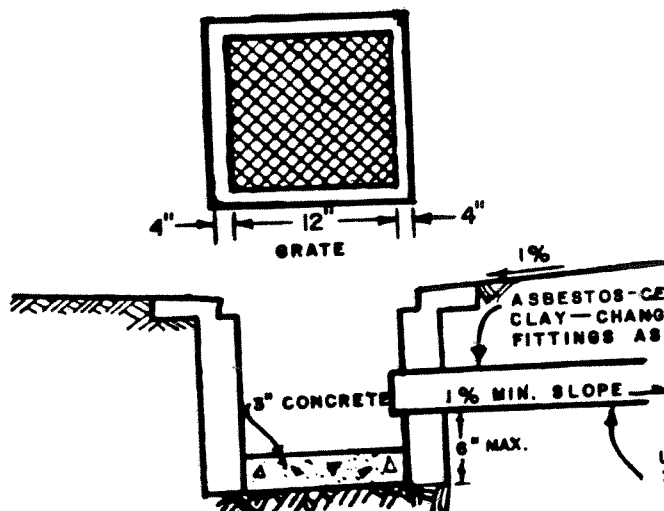
DETAIL E
USE FOR SIDE YARD OBSTRUCTION
(I.E., FIREPLACES, STOOPS, WALKS, ETC.)



COMMON SWALE

NOTES

1. A 2% OVERALL GRADIENT SHALL BE MAINTAINED BETWEEN REAR OF SITE TO CURB OR DRAINAGE STRUCTURE.
2. A 1% MINIMUM FLOWLINE IS REQUIRED AROUND THE HOUSE TO A DRAINAGE STRUCTURE OR THE STREET.
3. ANY GRADIENT GREATER THAN 5% THAT CARRIES YARD DRAINAGE SHALL HAVE A PAVED SWALE OR "V" DRIVEWAY.
4. NO ROOF DRAINAGE OVER SLOPES IS PERMITTED.
5. FOOTING DEPTHS MAY REQUIRE ADJUSTMENT DUE TO ADJACENT DRAINAGE DEVICES.



DETAIL F
YARD CATCHBASIN

UP TO 3000 SQ. FT. AREA, 4" MIN.
3000-6000 SQ. FT. AREA, 6" MIN.
OVER 6000 SQ. FT. AREA, AS DESIGNED BUT 6" MIN.

SLOPE LOCATION AND SETBACKS:

Cut and fill slopes shall be set back from site boundaries and buildings shall be set back from cut or fill slopes in accordance with Figure No. 70-A and as hereinafter provided.

The setback and other restrictions imposed by Figure 70-A may be increased where unusual soil or geologic conditions make such increase necessary for safety or stability or may be modified upon investigation and recommendation by a soil engineer or geologist where such modification will provide equivalent safety, stability and protection, and the Building Official so finds.

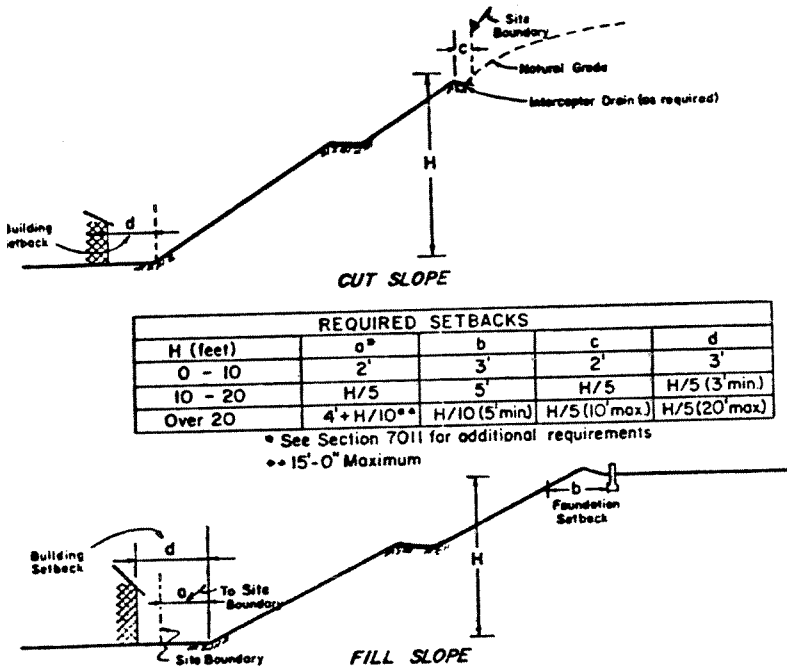


FIGURE NO. 70-A REQUIRED SETBACKS

PLANTING OF SLOPES:

Planting. The surface of all cut slopes more than five feet in height and fill slopes more than three feet in height shall be protected against damage by erosion by planting with grass or ground cover plants. Slopes exceeding 15 feet in vertical height shall also be planted with shrubs, spaced at not to exceed 10 feet on centers; or trees, spaced at not to exceed 20 feet on centers; or a combination of shrubs and trees at equivalent spacings, in addition to the grass or ground cover plants. The plants selected and planting methods used shall be suitable for the soil and climatic conditions of the site and in accordance with the following standard specification.

Irrigation. Slopes required to be planted shall be provided with an approved system of irrigation, designed to cover all portions of the slope and plans therefor shall be submitted and approved prior to installation. A functional test of the system may be required.

GRADING INSPECTION AND SUPERVISION:

(a) **Supervised or Regular Grading.** All grading involving a fill intended to support structures, or the development of more than one lot or parcel of land, or in excess of 5000 cubic yards of material, or grading where the Building Official determines special conditions or unusual hazards exist shall be performed under the supervision of a civil engineer and shall be designated "supervised grading". Grading other than supervised grading shall be designated "regular grading."

(b) **Regular Grading Requirements.** The Building Official, upon notification from the permittee or his agent, shall inspect the grading at the following stages of the work and shall either approve the portion then completed or shall notify the permittee or his agent wherein it fails to comply with the requirements of this Code:

1. **Initial.** When the site has been cleared of vegetation and unapproved fills and scarified, benched or otherwise prepared and before any fill is placed.
2. **Rough.** When rough grading has been completed and approximate final elevations have been established; drainage terraces, swales and other drainage devices graded ready for paving; and berms installed at the top of slopes.
3. **Final.** When grading has been completed; all drainage devices installed; slope planting established and irrigation systems installed.

(c) **Supervised Grading Requirements.** It shall be the responsibility of the supervising grading engineer to supervise the grading operations and to coordinate site inspection and testing to assure compliance of the work with the approved grading plans, the recommendations of the soils engineer and/or geologist, and the requirements of this Code. He shall submit periodic progress reports as required by the Building Official, and shall verify in writing to the satisfactory completion of the various stages of the work. The verification for that portion of the work concerning the preparation of the existing ground surface and placing and compaction of fills may be made by the soils engineer for the approved soil testing agency. The Building Official may require sufficient inspections by the geologist to assure that all geological conditions have been adequately considered and recommended corrective measures incorporated in the work.

All necessary reports, compaction data and soils engineering or engineering geological recommendations made during the grading operation shall be submitted to the Building Official by the Supervising Grading Engineer.

STORM DAMAGE PRECAUTIONS:

No grading permit shall be issued for work to be commenced between October 1 of any year and April 15 of the following calendar year, unless the plans for such work include details of protective measures, including desilting basins or other temporary drainage or control measures, or both, as may be necessary to protect adjoining public and private property from damage by erosion, flooding or the deposition of mud or debris which may originate from the site or result from such grading operations.

INSTRUCTIONS FOR SUBMITTING TEMPORARY EROSION CONTROL PLANS

1. Desilting facilities must be provided at all drainage outlets from the graded site. They must be detailed on the plans. If desilting basins are required, they must comply with the minimum standards below. Submit design and specific recommendations to cover the following:

- Basin volume based on gradient and nature of soils.
- Size of pipe and overflow (Overflow must be designed for 1.5 maximum Q).
- Height of standpipe.
- Dike requirements. Minimum wall width, slope of walls, percent compaction, etc.

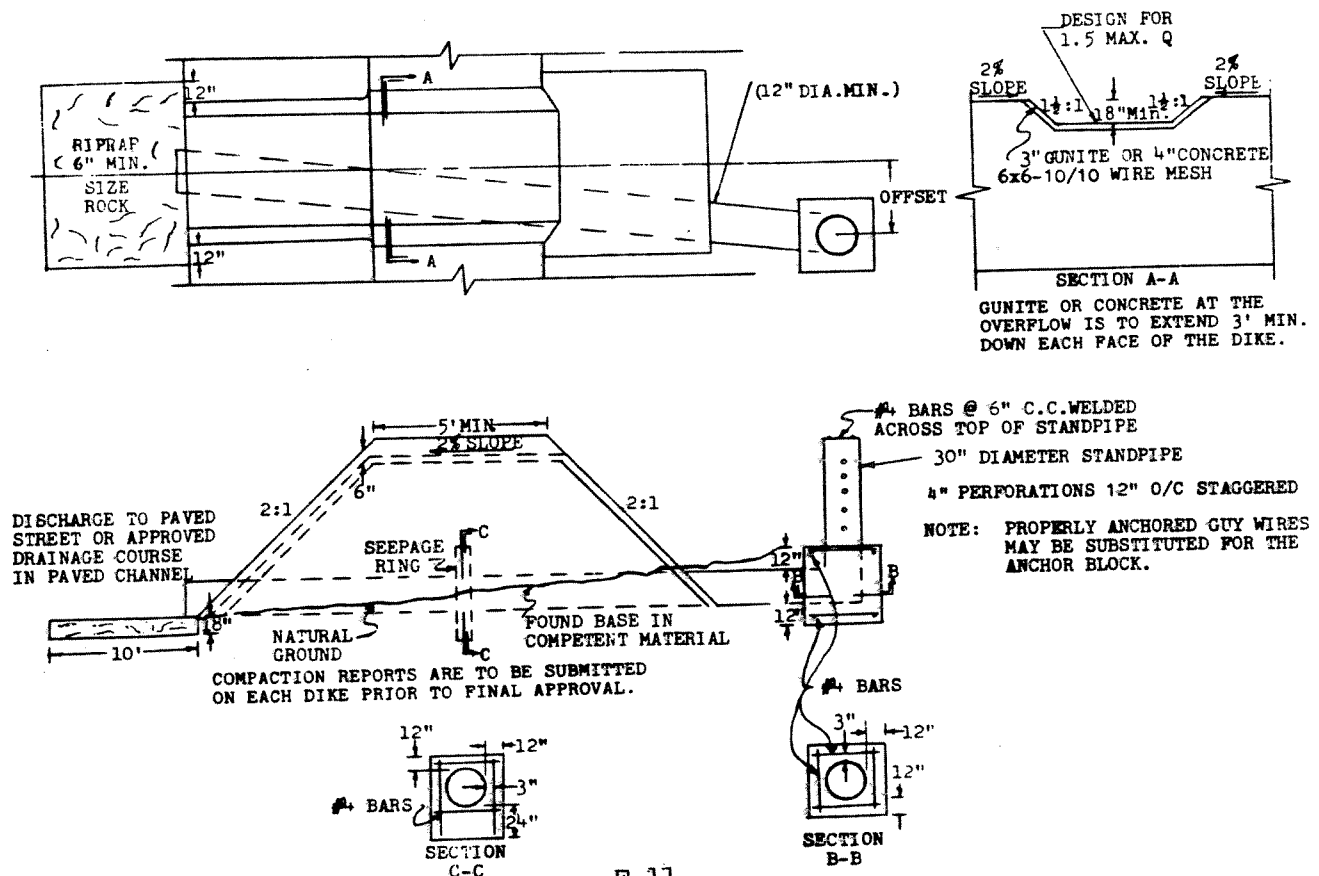
2. Place the following notes on the plans:

- In case of emergency, call _____ (Responsible person) at _____ (24 hour phone number(s)).
- "The undersigned Civil Engineer will supervise erosion control work and certify that work is in accordance with the approved plans." (Signature) _____ (Date) _____.
- "A stand-by crew for emergency work shall be available at all times during the rainy season. Necessary materials shall be available on site and stockpiled at convenient locations to facilitate rapid construction of temporary devices when rain is imminent."
- "Devices shall not be moved or modified without the approval of the County Inspector."
- "All removable protective devices shown shall be in place at the end of each working day when the 5-day rain probability forecast exceeds 40%."
- "After a rainstorm, all silt and debris shall be removed from check berms and desilting basins and the basins pumped dry."
- "Fill slopes at the tract perimeter must drain away from the top of slope at the conclusion of each working day."
- "A guard will be posted on the site whenever the depth of water in any device exceeds two feet."

3. Indicate on the plan which streets will be paved and which drainage devices will be completed by November 1.

4. Placement of devices to reduce erosion damage within the tract is left to the discretion of the engineer. These devices, if any, must show on the plan because their presence will affect the required capacity of the desilting basin.

MINIMUM DESILTING BASIN STANDARD



APPENDIX G

Rare Santa Catalina Island Plants

APPENDIX G. Rare Catalina Native Plants

Island endemics and species also rare on the mainland are included on the list. Others are listed because of their rarity on the Island or restriction to limited habitats. These plants were taken from lists contained in the Santa Catalina Island Natural Resource Management Plan, Supplement II, October 1980, Center for Natural Areas.

<i>Abronia umbellata</i>	<i>Carpobrotus aequilaterus</i>
<i>Ammania coccinea</i>	<i>Ceanothus arbreus</i>
<i>Andropogon barbinodis</i>	<i>Ceanothus megacarpus insularis</i>
<i>Antirrhinum kelloggii</i>	<i>Cercocarpus traskiae</i>
<i>Aphanisma blitoides</i>	<i>Chaetopappa lyonii</i>
<i>Arctostaphylos catalinae</i>	<i>Chenopodium macrospermum farinosum</i>
<i>Arenaria douglasii</i>	<i>Chorizanthe coriacea</i>
<i>Aristida adscensionis</i>	<i>Chorizanthe staticoides</i>
<i>Asclepias fascicularis</i>	<i>Conyza coulteri</i>
<i>Aspidotis californica</i>	<i>Coreopsis gigantea</i>
<i>Astragalus d. didymocarpus</i>	<i>Crassula aquatica</i>
<i>Astragalus t. trichopodus</i>	<i>Crossa trux. vallicola</i>
<i>Athysanus pusillus</i>	<i>Crossoma californicum</i>
<i>Atriplex watsonii</i>	<i>Cryptantha micromeres</i>
<i>Bergerocactus emorgi</i>	<i>Dendromecon rigida rhamnoides</i>
<i>Brodiaea jolonensis</i>	<i>Dissanthelium californicum</i>
<i>Bromus arizonicus</i>	<i>Dudleya greenei</i>
<i>Calandrina maritima</i>	<i>Dudleya hassei</i>
<i>Callitriche marginata</i>	<i>Elatine californica</i>
<i>Cardamine californica</i>	<i>Eriastrum filifolium</i>
<i>Carex praegracilis</i>	<i>Erigeron foliosus</i>
<i>Carex triquetra</i>	<i>Eriodictyon tr. traskiae</i>

Eriogonum giganteum giganteum
Eriophyllum nevinii
Eschscholzia vamosa
Euphorbia misera
Euphorbia spathulata
Galvesia speciosa
Gilia capitata abrotanifolia
Gilia nevinii
Gnaphalium icrocephalum
Gnaphalium palustre
Habenaria unalaschensis
Helenium puberulum
Helianthemum greenii
Hemizonia clementina
Hesperolinon micranthum
Heteromeles arbutifolia macrocarpa
Holodiscus discolor
Hordeum californicum
Jaumea carnosa
Jepsonia malvifolia
Lavatera assurgentiflora
Linanthus bicolor
Lithophragma affine ixtum
Lotus argophyllus ornithopus
Lotus grandiflorus
Lotus scoparius dendroideus
Lotus subpinnatus

Lycium hassei
Lyonothamnus floribundus floribundus
Mentzelia micrantha
Microseris heterocarpa
Microseris douglasii platycarpa
Mimulus g. guttatus
Mimulus traskiae
Monanthochloe littoralis
Memphila m. menziesii
Notholaena californica
Orobanche bulbosa
Orobanche fasciculata franciscana
Papaver californicum
Paspalum distichum
Phacelia distans
Phacelia grandiflora
Phacelia lyonii
Plagobothrys nothofulvus
Platystemon californicus
Pluchea purpurascens
Potamogeton foliosus
Potentilla gl. glandulosa
Psilocarphus t. tenellus
Quercus engelmannii
Quercus lobata
Quercus tomentella
Rhamnus pirifolia

Salicornia subterminalis
Salicornia virginica
Satureja douglasii
Scirpus olneyi
Scirpus robustus
Scrophularia villosa
Senecio lyonii
Sibara filifolia
Sida leprosa hederacea
Sisyrichium bellum
Solanum wallacei wallacei
Solidago californica
Spergularia marina
Stipa cernua
Stylomecon heterophylla
Suaeda californica
Thysanocarpus curvipes elegans
Trichostema lanceolatum
Trifolium albopurpureum
Trifolium gracilentum
Trifolium macraei
Trifolium microdon pilosum
Trifolium palmeri
Tropidocarpum gracile
Vitus girdiana
Xylococcus bicolor

